APPLICATION		
DASH NO.	NEXT ASSY	USED ON
-401		960-2226 960-2225 960-2224 960-2230 960-2233

TITLE SHEET
INDEX

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CONTRACT NO. ----------	PRECIOUS METAL INDICATOR CODE: N/A		**Honeywell International Inc.** Redmond, WA 98073-9701 **Honeywell**			
DRAWN	Al. Loos	98/01/09	Interface Control Document (ICD) for the Mark VII Enhanced Ground Proximity Warning System (MK VII EGPWS)			
CHECK						
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APVD	Lyle Kendall	98/01/09	A	97896	993-1076-401	AB
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REVISION STATUS OF SHEETS INDEX											
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SHEET NUMBER	REV LTR	SHEET NUMBER	REV LTR	SHEET NUMBER	REV LTR	SHEET NUMBER	REV LTR	SHEET NUMBER	REV LTR	SHEET NUMBER	REV LTR
All	A										
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REVISIONS				
SH	REV	DESCRIPTION	DATE	APPROVED
		Details of each section's revisions are listed in the Revision History at the beginning of the section.		
ALL	**A**	**Details of each section's revisions are listed in the Revision History at the beginning of the section. Reason: 01 Severity: 10**	**5/19/98**	**A Loos G Ostrom J Mitchell**
ALL	**B**	**Details of each section's revisions are listed in the Revision History at the beginning of the section. Reason: 01 Severity: 10**	**6/08/98**	**A Loos G Ostrom J Mitchell**
ALL	**C**	**Details of each section's revisions are listed in the Revision History at the beginning of the section. Reason: 01 Severity: 10**	**10/06/98**	**J Kistler G Ostrom L Kendall**
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ALL	**R**	**Details of each section's revisions are listed in the Revision History at the beginning of the section. Reason: 01 Severity: 10**	**20-OCT-03**	**M Henderson G. Gilliland J. Kistler**
All	**T**	**This Revision is applicable to the 219-219 release. Details of each section's revisions are listed in the Revision History at the beginning of the section. Reason: 01 Severity: 10**	**16-JAN-04**	**Gill Gary Ostrom**
All	**U**	**This Revision is applicable to the 220-220 release. Details of each section's revisions are listed in the Revision History at the beginning of the section. Reason: 01 Severity: 10**	**24-APR-04**	**Gill Gary Ostrom**

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ALL	**W**	**This Revision is to correct LRU information in section 4. Details of each section's revisions are listed in the Revision History at the beginning of the section. Reason: 01 Severity: 10**	**12-SEP-05**	**M. Henderson E. Wilmot**
All	**Y**	**This Revision is applicable to the 224-224 release. Details of each section's revisions are listed in the Revision History at the beginning of the section. Reason: 01 Severity: 10**	**28 APR 06**	**E. Wilmot A. Lowe**
All	**AA**	**This Revision is applicable to the 226-226 release. Details of each section's revisions are listed in the Revision History at the beginning of the section. Reason: 01 Severity: 10**	**24 AUG 06**	**E. Wilmot L. Ngo**
All	**AB**	**This Revision is applicable to the 228-228 release. Details of each section's revisions are listed in the Revision History at the beginning of the section. Reason: 01 Severity: 10**	**15 JUN 07**	**G. Ostrom L. Matter A. Anderson L. Matter**

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1. INTRODUCTION

Document Revision History, Sections 1 and 2

			Effectivity	
Date - Modified By	**Affected Sections**	**Description of the Updates**	**App.**	**Cfg.**
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
01/08/98 - A Loos	1.1	Update reference to example part number to actual part number 965-1076-001-202-202.	202	202
04/20/98 - G Ostrom	1.1	Added 965-1076-040 part number	-	-
10/09/98 - G Ostrom	1.1	Added 965-1076-020 part number	206	206
26-MAY-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
24-AUG-01 – S. Gagnon	1.1	SCR 6335 Added 965-1076-030 part number	213	213
27-NOV-01 – N Paterson	1.1	SCR 6053: General clean up and added –060 part number	-214	-214

1.1 Part Number

This document is the ICD for the MK VII series Enhanced Ground Proximity Warning System (EGPWS), Honeywell part numbers:

965-1076-001-xxx-xxx	MK VII, 115 VAC
965-1076-020-xxx-xxx	MK VII, 115 VAC with GPS
965-1076-030-xxx-xxx	MK VII, 28 VDC with GPS
965-1076-040-xxx-xxx	MK VII, 28 VDC
965-1076-060-xxx-xxx	MK VII, 115 VAC with Mercury GPS

Within this document the 965-1076-xxx-xxx-xxx part number series is referred to as the MK VII EGPWC. Differences, where they exist, between the different part numbers, are highlighted within this document.

In order to minimize complexity, the EGPWC utilizes a 16 digit part number. This 16 digit part number will identify the configuration of the EGPWC which affects form, fit, or function as seen by the pilot.

In order to support existing manufacturing systems the EGPWC 16 digit part number is mapped to a 10 digit part number via a 960-XXXX drawing.

The 16 digit part number is defined as follows:

- 965-1076-0XX-YYY-ZZZ (example 965-1076-001-202-202)
- Hardware (including boot code) = 965-1076-0XX
- Application Software = -YYY
- Configuration Software = -ZZZ
- Terrain Database - Version not identified in 16 digit part number.
- Envelope Modulation Database - Version not identified in 16 digit part number.
- Modifications - All modifications will be identified via “mod dots”. No mod dots will be skipped.

The digits identifying the Application software and Configuration software will match the respective version numbers of the Application software and Configuration software. The sub-components making up each of the items listed above are identified via the 960-xxxx system drawing and the 965-1076 top assembly drawing. See section 6.10.12 of the Product Specification for details on Configuration Management.

1.2 Purpose

The Interface Control Document describes all of the system external interfaces for the MK VII Enhanced Ground Proximity Warning System (EGPWS).

1.3 System Overview

Refer to the EGPWS Product Specification document referenced in section 2.

1.4 Document Overview

This document is organized as follows.

Section 1	Introduction, identifies this ICD and describes the content and organization of the document.
Section 2	Referenced Documents, refers to the Product Specification.
Section 3	Mechanical Interface, refers to Production Specification for mechanical interface data.
Section 4	Electrical Interface, provides summary of the number and type of electrical interfaces available.
Section 5	Aircraft Application Data, specifies the interfaces required to support each aircraft type as well as specific data provided on each interface.
Section 6	Appendix A: Input Data Definition, provides definition of digital and analog input sensor characteristics.
Section 7	Appendix B: ARINC DITS Output Data, describes the content of the ARINC DITS output data generated and transmitted by the EGPWS.
Section 8	Appendix C : Connector Interface, describes pin out and function for the rear and the front panel connectors.
Section 9	Appendix D: Definitions, provides a list of acronyms.

2 REFERENCES

Refer to the Product Specification, document 965-0976-60X for a complete list of applicable documentation.

3. Mechanical Interface

Document Revision History, Sections 3

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-

Refer to the Product Specification section 3 for environmental, power and mechanical interface details. Refer to Appendix C for pinout information.

4 ELECTRICAL INTERFACE

Document Revision History, Sections 4

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/11/97 - G Ostrom	4.2.25	Added 4.2.25 Pitch Limit Indicator Output definition	202	202
11/12/97 - A Loos	4.2.3	Updated Primary Power Input numbers.	202	202
11/17/97 - A Loos	4.2.17 through 4.2.24	Revised description of Audio Outputs to match MK VII (not MK V) interface. Made high and low level audio descriptions subsections to 4.2.17. Made ARINC 429 and ARINC 453 subsection to 4.2.20	202	202
12/10/97 - A Loos	4.2.17.1	Add note to specify that the 8 ohm output return must be connected to Signal ground.	202	202
04/20/98 - G Ostrom	4.2.3.2	Added 28 VDC primary power input definition.	204	204
06/23/98 – B. Breen	4.2.17	SCR 2875, 2781: Revised audio volume options descriptions.	206	206
07/13/98 – B. Breen	4.2.17.1, 4.2.17.2	SCR 2875: Corrected number of power levels	206	206
11/16/98 – A Loos	4.2.5	SCR 3241: Add note that 50-Ohm temperature probes can not be used.	-	-
24-MAR-99 – A Loos	4.2.3.2	SCR 3383: Remove GPS power numbers from 28 VDC power requirements.	-	-
27-Sep-99 - A Loos	ALL	SCR 4334: Correct format errors. Add SCR number to 24-MAR-99 entry.	-	-
06-NOV-99 - JDK	4.2 4.2.2 4.2.11	SCR 4334: General document clean up	-	-
04-FEB-00 - MJC	4.2.9.1 4.2.9.2 4.2.17.1	Corrected number of inputs from 22 to 23. Corrected number of inputs from 24 to 23. Clarified 8 ohm audio ground connection.	-	-
15-FEB-00– A Loos	4.2.9.1 & 2	Fix subscript on Rin and number of discrete inputs	-	-
26-MAY-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
28-Aug-01 – S. Gagnon	4.2.4.3	SCR 6335 Added 28 VDC Version for No Heater Blanket 965-1076-030.	213	213
27-NOV-01 – N Paterson	All	SCR 6053: General clean up and formatting		
08-Sep-05 – M. Henderson	4.2.3.1 - 4.2.3.5 4.2.1, 4.2.18.1, 4.2.20	SCR 8372: Updated primary power input information for all MK VII LRUs. Added notes for bus availability on the -060 LRU.	-	-
08-Sep-05 – M. Henderson	4.2.18.1	SCR 8372: Updated note for -060 LRU to add bus speed information.	-	-
18-AUG-06 – H. Asha Nand	4.2.3.3	SCR 8760: General Document cleanup.	-	-

4.1 Interface Introduction

The MK VII EGPWS provides external interfaces for integration into aircraft systems and to support maintenance functions. The external system interface is made via the ARINC 600 and 594 rear connectors, front panel maintenance port, front panel LEDs, front panel PCMCIA interface, front panel self test switch, and front panel headset jack. A coax connector located between the rear connectors is also provided for GPS. The following sections describe each of the external interfaces contained in these physical interfaces.

4.2 Rear Connectors - Interface

This section identifies and describes the number and characteristics of each interface type located in the rear connectors. Appendix C identifies the connector pin assignments. The signal mnemonic for each signal in Appendix C is included in the following sections. No two wire absolute AC signals are available. All synchro inputs are brought in as three or five wire devices. All analog inputs provide broken wire detection on all input signal legs. Dedicated "Special" analog inputs are provided for instances where a generic input is not adequate.

"Maximum reverse fault current" is defined as the current resulting from an internal component failure, with the input signal at zero volts.

4.2.1 ARINC 429/575 Digital Serial Bus Inputs

Quantity	8*
Format	DITS, ARINC 429/575 Low or high speed
Low Speed Data Rate	12.0 KBPS to 14.5 KBPS ± 1%
High Speed Data Rate	100 KBPS ± 1%
Direction of Information Flow	Type 'A' broadcast for ARINC 429/575
Word/Frame Structure	Type 'B' 32 bit words consisting of 8 bits label and 24 bits data/status
Data definition	Refer to Appendix A of this document
Signal Mnemonic	429INL, 429INH
SSM/SDI Definition:	Refer to Appendix A of this document

*Note: For the -060 LRU, the number of input buses is reduced to 7.

4.2.2 RS-422 Digital Serial Bus

Two RS-422 ports are provided at the rear connector, one input port and one output port. These ports are electrically multiplexed with an ARINC 429 receiver, and are selected through the configuration process. Consult TIA/EIA-422-B for a complete description of RS-422. The ports conform to RS-422 with the following additions.

Maximum Data Rate	128 Kbits/Sec (Cable termination will not be required for typical applications, see TIA/EIA-422-B Annex A)
Maximum Transceivers on Bus	20
Receiver Input Impedance	12 KΩ

4.2.3 Primary Power Input

4.2.3.1 115 VAC Version (965-1076-001)

Nominal Input	115 VAC, 400 Hz
Normal Voltage Range	104 to 122 VAC RMS
Normal Surge Voltage Range	60 to 160 VAC RMS (30 milliseconds)
Abnormal Voltage Range	97 to 134 VRMS
Abnormal Surge Voltage Range	0 to 180 VRMS (100 milliseconds)
Normal Frequency Range	360 to 440 Hz
Frequency Transients	±60 Hz from the initial steady state frequency for less than 7 sec.
Power Requirements	23 Watts - No Warnings +1 Watt with warning voice over 8 Ω speaker +3.8 Watts with Phantom Power connections (2.7 dissipated outside of the EGPWC) 27.8 Watts Max
Recommended Power Control Device	2 Amp delayed action circuit breaker.
Signal Mnemonic	PWRH, PWRL

4.2.3.2 28 VDC Version (965-1076-040 - With Heater Blanket)

Nominal Input	28 VDC
Normal Voltage Range	22.0 to 29.5 VDC
Normal Surge Voltage Range	12V (30 msec); 50V (50 msec)
Abnormal Voltage Range	20.5 to 32.2 VDC
Abnormal Surge Voltage Range	48V (1sec); 80V (100 msec)
Normal Frequency Range	not applicable
Frequency Transients	not applicable
Power Requirements	24 Watts - No Warnings +3 Watt with warning voice over 8 Ω speaker +3.8 Watts with Phantom Power connections (2.7 dissipated outside of the EGPWC) +50 Watts when heater blanket is on 30.8 Watts Max when heater blanket is off 80.8 Watts (typical) when heater blanket is on*
Recommended Power Control Device	5 Amp delayed action circuit breaker.
Signal Mnemonic	PWRH, PWRL**

* The heater blanket (965-1076-040-xxx-xxx only) turns on at temperatures ≤ -20° C and turns off at temperatures ≥ -10° C.
** Note that this is not a floating input. 28 VDC must be applied to the PWRH and a ground to PWRL.

4.2.3.3 28 VDC Version (965-1076-030 - Without Heater Blanket – With GPS)

Nominal Input	28 VDC
Normal Voltage Range	22.0 to 29.5 VDC
Normal Surge Voltage Range	12V (30 msec); 50V (50 msec)
Abnormal Voltage Range	20.5 to 32.2 VDC
Abnormal Surge Voltage Range	48V (1sec); 80V (100 msec)
Normal Frequency Range	not applicable
Frequency Transients	not applicable
Power Requirements	24 Watts – No Warnings for –030, No heater Blanket +3 Watt with warning voice over 8 Ω speaker +3.8 Watts with Phantom Power connections (2.7 dissipated outside of the EGPWC) +5 Watts with Internal GPS (includes antenna power) 35.8 Watts Max
Recommended Power Control Device	3 Amp delayed action circuit breaker.
Signal Mnemonic	PWRH, PWRL*

* Note that this is not a floating input. 28 VDC must be applied to the PWRH and a ground to PWRL.

4.2.3.4 115 VAC Version (965-1076-020 – With GPS)

Nominal Input	115 VAC, 400 Hz
Normal Voltage Range	104 to 122 VAC RMS
Normal Surge Voltage Range	60 to 160 VAC RMS (30 milliseconds)
Abnormal Voltage Range	97 to 134 VRMS
Abnormal Surge Voltage Range	0 to 180 VRMS (100 milliseconds)
Normal Frequency Range	360 to 440 Hz
Frequency Transients	±60 Hz from the initial steady state frequency for less than 7 sec.
Power Requirements	23 Watts - No Warnings +1 Watt with warning voice over 8 Ω speaker +5 Watts with Internal GPS (includes antenna power) +3.8 Watts with Phantom Power connections (2.7 dissipated outside of the EGPWC) 32.8 Watts Max
Recommended Power Control Device	2 Amp delayed action circuit breaker.
Signal Mnemonic	PWRH, PWRL

4.2.3.5 115 VAC Version (965-1076-060 – With Mercury GPS)

Nominal Input	115 VAC, 400 Hz
Normal Voltage Range	104 to 122 VAC RMS
Normal Surge Voltage Range	60 to 160 VAC RMS (30 milliseconds)
Abnormal Voltage Range	97 to 134 VRMS
Abnormal Surge Voltage Range	0 to 180 VRMS (100 milliseconds)
Normal Frequency Range	360 to 440 Hz
Frequency Transients	±60 Hz from the initial steady state frequency for less than 7 sec.
Power Requirements	23 Watts - No Warnings +1 Watt with warning voice over 8 Ω speaker +5 Watts with Internal GPS (includes antenna power) +3.8 Watts with Phantom Power connections (2.7 dissipated outside of the EGPWC) 32.8 Watts Max
Recommended Power Control Device	2 Amp delayed action circuit breaker.
Signal Mnemonic	PWRH, PWRL

4.2.4 Grounds

4.2.4.1 Chassis Ground

For redundant metal connection only. Not to be used as a normal current carrying conductor.

Signal Mnemonic GND_C

4.2.4.2 Signal Ground

For discrete inputs and lamp driver outputs.

Signal Mnemonic GND_S

NOTE: All analog signals are differential input.

4.2.5 Resistive Reference Return

Used to provide a resistive return to signal ground for DC Static Air Temperature or other device, which require a current sink. Note: This input cannot be used to accurately measure a 50-Ohm probe. The estimated error for a 50-Ohm probe is ± 10°C.

Quantity	1
Input Resistance	1.93K to signal ground
Resistance accuracy	± 0.1 %
Maximum Voltage	±11V (±5.7mA)
Signal Mnemonic	S_TATRET
Input Mode	Unbalanced (non-differential)
Signal Mnemonic	S_TATRET

4.2.6 Universal Analog Inputs

All universal analog inputs are differential to allow rejection of common mode signals to at least -30dB over a range of 0 to 100 Khz. The maximum input voltage swing applies to both the difference between the two legs of an input and the absolute voltage on a single input referenced to signal ground.

Quantity	14 3 wire, 21 2 wire
Input Signal Type	Analog DC or AC
Maximum Input Voltage Swing (differential)	50V between input legs
Maximum Input Voltage Swing (ref. to Gnd)	50V from any leg to signal ground
Input Hardware Filtering	20 µs single pole low pass
Absolute Input Signal accuracy	0.5% linearity +0.05% full scale
Ratiometric Input Signal accuracy	0.75% linearity +0.075% full scale
A/C Input Signal Frequency Range	400 Hz, ±10%
Overall Input Impedance	120,000 Ω ± 5.0%, each line to signal ground
Maximum Reverse Fault Current	< 150 µamps
A/D Conversion Step Size	< 0.001526V applied to connector pin
Signal Mnemonic	AnalogH, AnalogL, Analog3W1, Analog3W2, Analog3W3

4.2.7 Special Dedicated Analog Inputs

The MK VII EGPWS is compatible with avionics systems having unique interface requirements. These inputs are defined below.

Unless otherwise specified, Input Signal accuracy is1% linearity +0.1% full scale offset

4.2.7.1 Low Level Glideslope

Quantity	2
Input Impedance, each leg	>2.5 MΩ ±10%
Reverse Fault Current	< 6 µamps
Input Voltage Range	±2.5VDC
Input Filter	0.1 Second Low Pass, ± 10%
Input Type	Differential
Common Mode Voltage Range (V_{CM})	$11V \geq V_{CM} \geq -2V$
Broken Wire Detect	Implemented so that input will be biased greater than -15 dots
Signal Mnemonic	S_GlideH, S_GlideL

4.2.7.2 Localizer

Quantity	2
Input Impedance, each leg	>2.5 MΩ ±10%
Reverse Fault Current	< 6 µamps
Input Voltage Range	±2.5VDC
Input Filter	0.1 Second Low Pass, ± 10%
Input Type	Differential
Common Mode Voltage Range (V_{CM})	$11V \geq V_{CM} \geq -2V$
Broken Wire Detect	Implemented so that input will be biased greater than -30 dots
Signal Mnemonic	S_LocalizerH, S_LocalizerL

4.2.7.3 Three wire DC Ratio Barometric Altitude Rate

Quantity	1
Input Impedance: signal	(J1B-28) 100KΩ ±10%
Input Impedance: ref(+)	(J1B-29) 141KΩ ±10%
Input Impedance: ref(-)	(J1B-30) 488KΩ ±10%
Maximum Reverse Fault Current	< 200 µamps
Input Voltage Range	±20 VDC
Reference Voltages	±12 VDC ± 20%
Accuracy	2.5% linearity + 0.1% full scale offset
Input Filter	0.1 Second Low Pass, ± 10%
Reference Tracking	Absolute values to match within ± 0.020 VDC
Signal Mnemonic	S_DCBaro1, S_DCBaro2, S_DCBaro3

4.2.7.4 Radio Altitude

Quantity	3
Input Impedance (S_RadioH)	85 KΩ ±10%
Input Impedance (S_RadioL)	100 KΩ ±10%
Maximum Reverse Fault Current	< 200 µamps
Input Voltage Range (V_{RA})	$37.7V \geq V_{RA} \geq -2.5V$
Conversion Range (V_c)	$29.7V \geq V_c \geq -0.4V$
Input Filter	0.1 Second Low Pass, ± 10%
Broken Wire Detect	Implemented so that input will be biased to less than -39 feet (zero counts)
Signal Mnemonic	S_RadioH, S_RadioL

4.2.7.5 DC Angle of Attack

This input is required for certain AOA signals.

Quantity	1
Input Impedance (S_DCAOAH)	>400KΩ ±10%
Input Impedance (S_DCAOAL)	>595KΩ ±10%
Maximum Reverse Fault Current	< 32 µamps
Input Voltage Range (V_{RA})	±14.3V
Input Filter	0.1 Second Low Pass, ± 10%
Signal Mnemonic	S_DCAOAH, S_DCAOAL

4.2.8 Signal Timing Reference Inputs

These inputs accept 400 Hz AC signals, and detect the “zero crossings” of these signals. These zero crossings are used to time the conversion and input of AC signals. Absolute voltage level of these signals is not measured, but it must be within the range specified below. Voltage below the specified minimum value may result in intermittent or “jittery” zero cross detection.

A timing reference signal is required for input of AC devices. This reference can be brought in to the appropriate timing reference input, or the system can be configured to derive a reference from the signal. A valid reference can be generated up to ± 85 degrees synchro range.

Quantity	2
Input Impedance	> 157,500 Ω each line to signal ground
Maximum Reverse Fault Current	< 100 µamps, each line grounded.
A/C Input Signal Frequency Range	400 Hz, ±10%
Maximum Input Voltage Swing (differential)	50V between input legs
Maximum Input Voltage Swing (ref. to Gnd)	50V from any leg to signal ground
Input Hardware Filtering	None
Minimum Input Voltage	± 0.5VAC
Signal Mnemonic	T_refH, T_refL

4.2.9 Discrete Inputs

Discrete signals are intended for remote switching through the aircraft, and are therefore subject to being connected to other signals, and are also subject to transient voltage conditions. For these reasons, the following rules apply to each input, unless otherwise stated.

Each input is capable of withstanding voltage transients of ± 600VDC for 10 μs, without damage.

4.2.9.1 28 Volt Going Discretes

These discretes are internally biased via a pull down resistor, and are externally pulled up to 28V when active.

Quantity	23
Inactive Voltage Range	<8.5 VDC (Logic False)
Active Voltage Voltage	>15V (Logic True)
Diode Isolation	None
Input Impedance	R_{in}>98K
Signal Mnemonic	28vdisc
Fault Current	<100uA (up to 4V common mode)

4.2.9.2 Ground Going Discretes

These discretes are internally biased via a pull up resistor, and are externally pulled down to ground when active.

Quantity	23
Active Voltage Range	<4.2 VDC (Logic False)
Inactive Voltage Voltage	>18V (Logic True)
Diode Isolation	Each input is diode isolated to prevent current sinking
Input Impedance	27KΩ ± 10% to 0V
Fault Current	<150uA (up to 4V common mode)
Signal Mnemonic	Gdisc

4.2.10 Program Pin Inputs

System configuration is defined via program pin strapping. These program pin inputs are not intended for remote switching. In wiring the program pins they can be connected to ground, left open or wired to one of eight active tie points. Refer to Section 5 for program pin usage definition.

Quantity	24
Input Threshold Voltage (Inactive)	> 2.0VDC @ 30 μAmps to Ground
Input Threshold Voltage (Active)	< 0.8VDC @ 42 μAmps to Ground
External Pulldown Impedance (Active)	< 19.0 KΩ to Ground
Input Impedance	100KΩ
Maximum Fault Current	550 μAmps at 0VDC input
Signal Mnemonic	Progpin

4.2.11 GPS Antenna Input

A GPS input connector is available on the rear of the MK VII EGPWS.

Quantity	1
Signal Mnemonic	COAX
Connector Type	Huber+Suhner 24 BMA 50
Cable Length/Allowed Signal Loss	Not more than 8 dB, at 1575.42 MHz, for cable and connector loss from antenna to unit.
Low Level DC on RF Output	+5 Vdc ±5%, 50 ma maximum, Shield Ground.

4.2.12 Phantom Power Output

A power source is available for small remote devices, such as an Air Data Computer (ADC) or BIAX accelerometer. The output is protected against an external short circuit.

Quantity	1
Output Voltage	±24V ± 10%
Maximum Load Current: Positive Supply	145 mA *
Maximum Load Current: Negative Supply	-145 mA*
Maximum Inrush - either Polarity	10Ω into 400 uF
Maximum P-P Ripple	300mV
Signal Mnemonic	PWROUTH, PWROUTL

*Note: This current is generally adequate to supply both the BIAX and ADC simultaneously.

4.2.13 DC Reference Voltage Output

This is a buffered version of the A/D reference voltage. It is available as an accurate excitation source for resistive sensors and for GSE testing of the reference.

Quantity	1
Output Voltage	5.000VDC ±10 mVDC from no load to maximum load
Maximum Load	2KΩ
Signal Mnemonic	5Vref+, 5Vref-

4.2.14 Lamp Driver Outputs

The MK VII EGPWS supports two kinds of Ground/Open discrete outputs used to signal various discrete conditions. Monitor Discrete outputs are used to signal failure conditions for the MK VII EGPWS. Monitor discrete outputs default to an active state when there is a failure or if power is removed from the MK VII EGPWS. The other Lamp Driver outputs are used to signal the warning or mode control status of the MK VII EGPWS.

Short term current limit protection is provided on all drivers for output shorting conditions. The specific use of each discrete is determined by the aircraft type selected. Ground going discretes may be connected together to produce a “wired OR” function for the active low state of the signals. Note that the GPWS Alert/Warning Discrete output format is a function of the selected aircraft type as described in Section 5.

4.2.14.1 Monitor Discrete Output Characteristics.

Quantity	3
Type of Output:	Steady Switch Closure to Ground
Max. Open Circuit Voltage:	30 VDC
Current Limit	1 Amp
Potential Across “Closed” Switch:	1 VDC Max
Signal Mnemonic	Monout

4.2.14.2 Lamp Driver Output Characteristics.

Quantity	10
Type of Output:	Steady or Interrupted Switch Closure to Ground
Max. Open Circuit Voltage:	30 VDC
Current Limit	1 Amp
Potential Across “Closed” Switch:	1 VDC Max
Signal Mnemonic	Lampout

4.2.15 Reserved

4.2.16 Reserved

4.2.17 Audio Outputs

Two audio outputs are provided. An 8 ohm output and a 600 ohm output. There are several possible volume levels available with the EGPWS as shown below. The actual audio level output by the EGPWS is dependent on several items:

- Selection of nominal warning/alert audio volume level (max, -3, or –6 db) via program pin. (Section 5.2.9)
- If a 'soft' Glideslope alert is being issued (given 6 db below nominal warning/alert volume level).
- If a self test is in progress warning/alerts are given 6 db below normal voices.
- Selection of Mode 6 Volume Reduction in section 5.2.11, which lowers callout volume by 6 db.
- Selection of Alternate Mode 6 Volume level in Section 5.2.9 will reduce Mode 6 volume by an additional 3 db.
- If the optional Mode 6 Low Volume discrete has been activated, callouts are lowered by an additional 6 db (Section 5.2.14).
- If the altitude callout menu selected is defined as "low volume", callouts are lowered by 6 db (Section 5.2.8).

With the exception of the last two options, which are mutually exclusive (Mode 6 Low Volume discrete input has no effect on callout menus defined as "low volume"), the Mode 6 options may be combined to give 6 output level options relative to alert/warning level volume, in 3 db increments: 0, -3, -6, -9, -12, or -15 db.

4.2.17.1 High Level (Speaker) Audio Output

The 8 ohm output is capable of driving a speaker directly but can also be used to drive other devices with equal or higher impedance.

Quantity	1
Maximum Power Output	2 Watts Nominal ("Whoop" at 4.4 Watts RMS @800Hz into 8Ω, 13.8 ±2 Volts peak-to-peak)
Nominal Output Impedance	8Ω
Load Impedance	8Ω or greater
Number of Available Power Output Levels	8
Signal Mnemonic	HL Audio Output (J1A-33)

Note: The 8 ohm output return should be connected to DC ground, preferably near the speaker.

4.2.17.2 Low Level (Interphone) Audio Output

The 600 ohm output is capable of driving one 600 ohm load at the specified level (or at a reduced level). This output is primarily designed for headphones and interphone systems. This output is also provided to a EGPWC front panel jack.

Quantity	2
Nominal Output Impedance	600Ω ±10%
Maximum Single Channel Power Output	25 mW Nominal ("Whoop" at 50 mW RMS @ 800 Hz into 600Ω, 14.4 ±2 Volts peak-to-peak)
Available Power Output Levels	8
Signal Mnemonic	LLAudio OutputH, LLAudio OutputL

4.2.18 ARINC Digital Serial Output Busses

4.2.18.1 ARINC 429 Output Bus

Quantity	1*
Format	DITS, ARINC 429 Low speed
Data Rate	12.0 KBPS to 14.5 KBPS ± 1% (Low Speed)
Direction of Information Flow	Type 'A' broadcast for ARINC 429/575
Word/Frame Structure	Type 'B' 32 bit words consisting of 8 bits label and 24 bits data/status
Data definition	Refer to Appendix B
Signal Mnemonic	429OUTL, 429OUTH

*Note: For the -060 LRU, the number of output buses is increased to 3, with 2 ARINC 429 High speed bus, with a data rate of 100 KBPS, ± 1%.

4.2.18.2 ARINC 453 Output Bus

Quantity	2
Format	1600 bit Manchester bi-phase per ARINC 708
Data Rate	1 Mb per second

4.2.19 Accelerometer Self Test Control Output

A control discrete output is provided to allow the MK VII EGPWS to initiate the BIAX self test.

Quantity	1
Signal Level: No Test	±0. 5 VDC maximum
Signal Level: (+) BIAX Saturation	-9.4 VDC ± 1.5V
Signal Level: (-) BIAX Saturation	+9.4 VDC ± 1.5V
Source Impedance	100Ω ±10%
Signal Ground Reference (-)	Phantom Power Return Line
Mnemonic	Accel_out

4.2.20 RS-232 Port

One port is provided which meets the characteristics specified in RS232C. This bus is used for MK VII EGPWS maintenance purposes

Baud Rate	19,200
Parity	None
Data bits	8
Stop bits	1
Maximum Recommended Cable Length	15 meters
Signal Mnemonic	RS232-T, RS232-R, RS232-C

*Note: The RS-232 rear port is not available on the -060 LRU. The RS-232 will only be available on the front port (see 4.4)

4.2.21 Pitch Limit Indicator Output

Two Pitch Limit Indicator outputs (PLI) are provided. They are referenced to the program pin ground, and are exercised by writing data to the Controller Card memory.

Quantity	2
Output Voltage Maximum	±10 VDC
Source Impedance – Nominal	1KΩ
Load Impedance	Limited by maximum signal level required, and above source impedance.
Signal Mnemonic	PLI 1, PLI 2-

4.3 Front Connector

The MK VII EGPWS provides a 15 pin (double density, D-Sub) test connector on the front panel which provides for connection to either a CRT terminal, or a PC. This connector provides the following interface.

1) This three wire serial interface, compatible with RS232. This port can be used to access internal data from the MK VII

EGPWS for both bench simulation, and aircraft testing. In addition to the internal data, other items such as unit configuration and flight history can also be accessed. In addition a keyboard monitor port, compatible with RS232, is provided to assist in trouble-shooting the AAC. It can also be used in the field for testing analog inputs to the MK VII EGPWS.

2) Future ARINC 422 data loader interface. In the future this port may be used to upload software and databases.

Refer to Appendix C for connector pin out.

4.4 Front Panel Status and Test

The MK VII EGPWS front panel provides its own test interface via status LEDs, a self test switch, and a 600 ohm headset jack that provides the same audio as sent to the cockpit.

Status LEDs: Three LEDs which indicated system status and LRU status are provided. An amber LED labeled "EXTERNAL FAULT" is activated when a signal fault external to the MK VII EGPWS is detected. A green LED labeled "COMPUTER OK" is activated when the MK VII EGPWS itself is okay. A red LED labeled "COMPUTER FAIL" is activated when the MK VII EGPWS has detected an internal computer fault.

Refer to Product Specification 965-0976-60X for a detailed discussion of status indications and recommended maintenance actions.

Self Test: A self test switch is provided which has the same functionality as the cockpit self test switch. Using the headset jack allows the operator to perform system tests directly at the unit, or on the bench, without requiring a speaker.

RS-232 Port: An RS-232 port is provided. Refer to RS-232 Port

One port is provided which meets the characteristics specified in RS232C. This bus is used for MK VII EGPWS maintenance purposes

Baud Rate	19,200
Parity	None
Data bits	8
Stop bits	1
Maximum Recommended Cable Length	15 meters
Signal Mnemonic	RS232-T, RS232-R, RS232-C

Refer to Product Specification 965-0976-60X for a detailed description of self test activation and response.

4.5 PCMCIA Interface

The PCMCIA interface allows for both the uploading, and downloading of internal MK VII EGPWS information. Using this interface system software and databases can be updated. Control of the upload/download process is accomplished by insertion of the PCMCIA card on the MK VII EGPWS front panel. LEDs are provided for PCMCIA interface operation. The PCMCIA card is not intended as an on-line/in-flight storage medium and must be removed after completion of the upload/download operation.

5. AIRCRAFT APPLICATION DATA

Document Revision History, Sections 5 and 5.1

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/07/97 - A. Loos	5.1	Correct Spelling Errors	202	202
11/17/97 - G. Ostrom	5.1	Updated signal selection description and instructions for category 3, 4, 7, and 10.	202	202
01/05/98 - G. Ostrom	5.1	Added figure 5.1.	202	202
05/01/98 - S. Gagnon	5.1	Moved/Changed figure 5.1.after Table 5.1.	204	204
05/19/98 – A Loos	5.1	Updated table 5.2 to reflect Program Pin changes in Categories 10 and 12.	204	204
06/3/98 – A Loos	Table 5.1	Correct Step 15 instruction to reference Table 5.1 or Figure 5.1, not 5.2.10.	-	-
10/09/98 – G. Ostrom	Table 5.1	Correct typo in Step 14.	-	-
15-Feb-99 – N. Paterson, F. Trowbridge	Table 5.1 Figure 5.1	SCR 3336: Added Step 17 to table 5.1 for Peaks Enable. Also added Step 16 for PWS input selection. (Note: Category 16 was added per SCR 2670 in the 204.) Updated the Program Pin Strapping Data Collection diagram in figure 5.1 to include categories 16 and 17.	208	208
25-Feb-99 – MJC	Table 5.1	SCR 3570: Added GPS Altitude Reference to Step 17.	208	208
24-MAR-99 – A Loos	Table 5.1	Update wording in Step 16 to match Category 16 description.	-	-
25-JUN-99 – A Loos	Figure 5.1	SCR 3830: Improve wording and depiction of parity pin use.	-	-
8-OCT-99 – J. Kistler	Figure 5.1	SCR 4334: Updated figure to move the Parity Program Pin to the bottom of the table.	-	-
15-FEB-00 – A Loos	Figure 5.1	Update Figure to show impedance limits on lamps.	-	-
26-MAY-00 – M. Henderson	Table 5-1 and Figure 5.1	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
14-JUN-00 G. Burlingame	Figure 5.1	Updated figure to remove specific program pin connections.	-	-
06-DEC-01 – N Paterson	All	SCR 6053: General Cleanup		
14-DEC-01 – N Paterson	Table 5.1	SCR 6609: Deleted step 5 item D (Pitch Alert)	214	214
21-FEB-02 – S.G.H.Bhatta	Table 5.1 and Fig 5.1	SCR 3181: Added Simulator Reposition Enable to Table 5.1 Step 5 and to Fig 5.1 Category ID #5	-	-
09-MAR-02 –S.G.H.Bhatta	Table 5.1 and Fig 5.1	SCR 3181: Replaced 'Simulator Reposition Enable' by 'Simulator Reposition Enable Reversal' in Table 5.1 Step 5 and in Fig 5.1 Category ID #5	-	-
11-JUN-02 G. Ostrom	Table 5.1	SCR 6608: Document only update: In table 5-1 Step 12 corrected typos in Signal Selection.	-	-
17-JUN-02 Gary Boyd	Table 5.1 Figure 5.1	SCR 6608: Table 5-1, Step 15 removed unused states and changed ID to Parity. Figure 5.1 flag note 1 changed wording.	-	-
18-AUG-06 H. Asha Nand	Table 5-1	SCR 8670: General Document cleanup.	-	-

This section describes how the MK VII EGPWS interfaces to specific aircraft configurations. Section 5.1 defines how the program pins are connected (strapped) to select the interface to aircraft sensors and to select EGPWS performance options. Section 5.2 and its sub-sections define the specific aircraft application of the MK VII EGPWS.

5.1 Program Pin Strapping

This section defines the program pin strapping details. Each of the 24 program pins can be:

a) left open, or

b) connected to program pin common, or

c) connected to one of 8 driver pins.

This allows one pin to select one of 10 possible options.

The selection or STATE will determine one of the conditions listed above.

STATE 1 = Program Pin: open
STATE 2 = Program Pin connected to PPCOM: **J1A-26**
STATE 3 = Program Pin connected to Discrete Output 1 **(DO #1)** : **J2-A1**
STATE 4 = Program Pin connected to Discrete Output 2 **(DO #2)** : **J2-A2**
STATE 5 = Program Pin connected to Discrete Output 4 **(DO #4)** : **J2-B13**
STATE 6 = Program Pin connected to Discrete Output 6 **(DO #6)** : **J1A-21**
STATE 7 = Program Pin connected to Discrete Output 7 **(DO #7): J1B-9**
STATE 8 = Program Pin connected to Discrete Output 8 **(DO #8): J1B-10**
STATE 9 = Program Pin connected to Discrete Output 9 **(DO #9): J1B-11**
STATE 10 = Program Pin connected to Discrete Output 10 **(DO #10) J1B-33**

NOTE: The Discrete Outputs (DO #X) are also LAMP DRIVERS, for the purposes of this section they will be addressed as DO #X.

Program pin monitoring is provided via a parity pin which is to be connected such that an odd number of program pins are strapped for any valid configuration.

The following table provides the procedure to determine the program pin strapping required for any given aircraft installation.

TABLE 5-1: PROGRAM PIN SELECTION PROCEDURE

Step (Category)	**Signal Selection**	**Instruction**		**PROG. PIN/STATE**	**Connect to Discrete outputs**	**PROG. PIN/STATE**	**Ident No.**
1	Selects: a) Aircraft Series b) AOA c)Flaps d) WS Coefficient e) Body AOA Corr.	Using Table 5.2.1 and any sub-tables contained within, locate the aircraft type & verify that the AOA & Flaps signals selected are applicable to your aircraft.	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this table.	PP21 (J2-A8) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	 ←--------Open-------- ➔ ← PPCOM; J1A-26 ➔ ← DO #1; J2-A1 ➔ ← DO #2; J2-A2 ➔ ← DO #4; J2-B13 ➔ ← DO #6 J1A-21 ➔ ← DO #7; J1B-9 ➔ ← DO #8; J1B-10 ➔ ← DO #9; J1B-11 ➔ ← DO #10; J1B-33 ➔	PP20 (J2-A7) ←1_____ ←2_____ ←3_____ ←4_____ ←5_____ ←6_____ ←7_____ ←8_____ ←9_____ ←10____	_____ ID #
2	Selects: Radio Altitude inputs	Using Table 5.2.2, and any sub-tables contained within, locate the desire Rad. Alt signal (s) type	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on Ident column of this table.	PP14 (J1A-32) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	 ←---------Open ←PPCOM; J1A-26 ← DO #1; J2-A1 ← DO #2; J2-A2 ← DO #4; J2-B13 ← DO #6, J1A-21 ← DO #7; J1B-9 ← DO #8; J1B-10 ← DO #9; J1B-11 ← DO #10; J1B-33		_____ ID #
3	Selects: Air Data	Using Table 5.2.3, and any sub-tables contained within, locate the desire Air Data signal type	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this table.	PP6 (J2-A10) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	 ←--------Open-------- ➔ ← PPCOM; J1A-26 ➔ ← DO #1; J2-A1 ➔ ← DO #2; J2-A2 ➔ ← DO #4; J2-B13 ➔ ← DO #6 J1A-21 ➔ ← DO #7; J1B-9 ➔ ← DO #8; J1B-10 ➔ ← DO #9; J1B-11 ➔ ← DO #10; J1B-33 ➔	PP15 (J1A-34) ←1_____ ←2_____ ←3_____ ←4_____ ←5_____ ←6_____ ←7_____ ←8_____ ←9_____ ←10____	_____ ID #
4	Selects: a) Attitude/ Accel. Data b) Flashing Lamps	Using Table 5.2.4, and any sub-tables contained within, locate the desired Attitude/Acceleration signal type, then select the desired condition for Flashing Lamp	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this table.	PP16 (J1A-35) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	 ←--------Open-------- ➔ ← PPCOM; J1A-26 ➔ ← DO #1; J2-A1 ➔ ← DO #2; J2-A2 ➔ ← DO #4; J2-B13 ➔ ← DO #6 J1A-21 ➔ ← DO #7; J1B-9 ➔ ← DO #8; J1B-10 ➔ ← DO #9; J1B-11 ➔ ← DO #10; J1B-33 ➔	PP13 (J1A-29) ←1_____ ←2_____ ←3_____ ←4_____ ←5_____ ←6_____ ←7_____ ←8_____ ←9_____ ←10____	_____ ID #

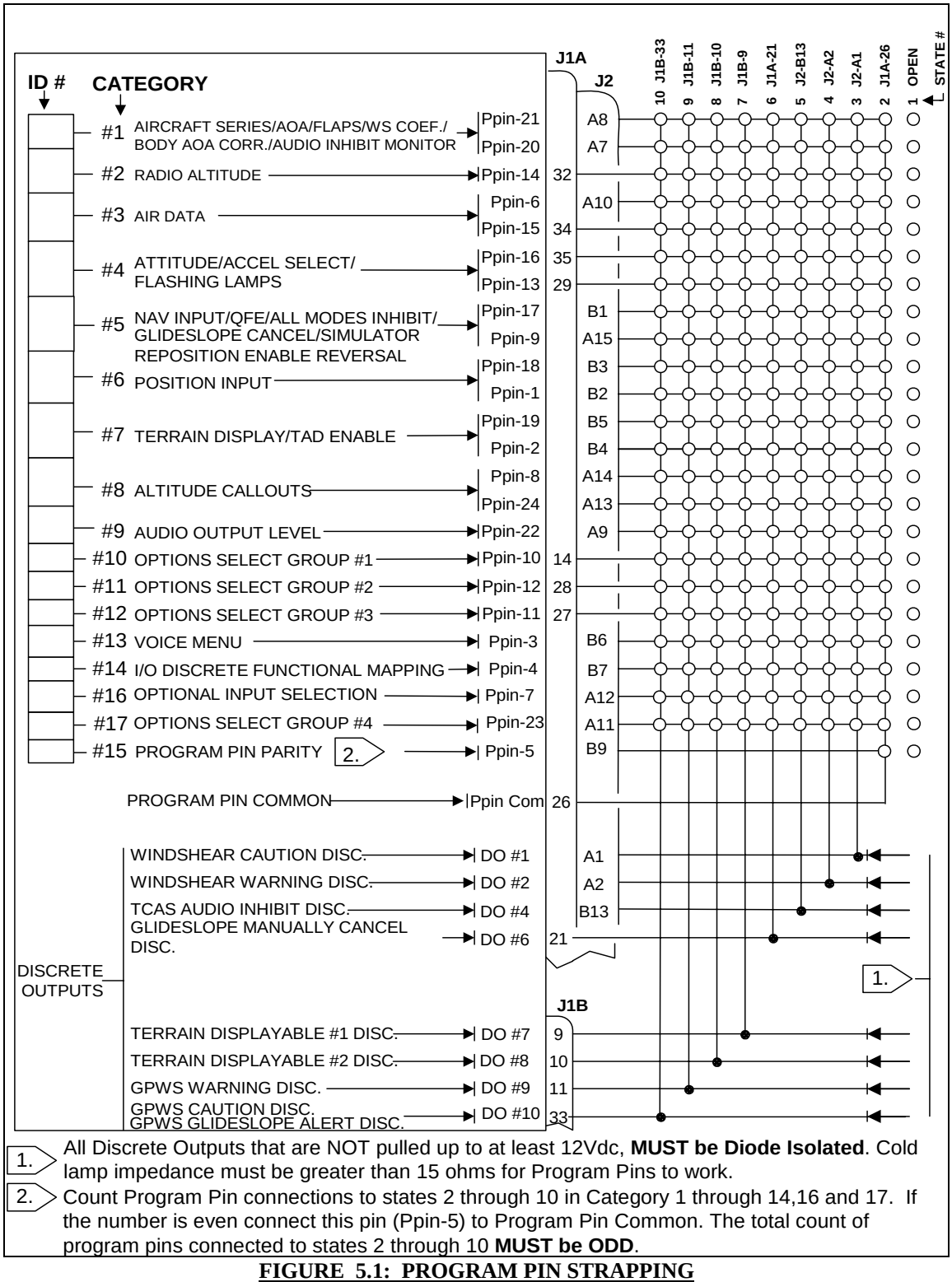
Step (Category)	**Signal Selection**	**Instruction**		**PROG. PIN/STATE**	**Connect to Discrete outputs**	**PROG. PIN/STATE**	**Ident No.**
5	Selects Nav. Input and Simulator Reposition Enable Reversal a) Glide Slope b) Localizer c) Glide Slope cancel type d) Simulator Reposition Enable Reversal	Using Table 5.2.5, and any sub-tables contained within, locate the desired Glide Slope and, or Localizer signal type.	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this table.	PP17 (J2-B1) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	←--------Open-------- ➔ ← PPCOM; J1A-26 ➔ ← DO #1; J2-A1 ➔ ← DO #2; J2-A2 ➔ ← DO #4; J2-B13 ➔ ← DO #6 J1A-21 ➔ ← DO #7; J1B-9 ➔ ← DO #8; J1B-10 ➔ ← DO #9; J1B-11 ➔ ← DO #10; J1B-33 ➔	PP9 (J2-A15) ←1_____ ←2_____ ←3_____ ←4_____ ←5_____ ←6_____ ←7_____ ←8_____ ←9_____ ←10____	_____ ID #
6	Selects Position Inputs: a) GPS input b) FMC inputs	Using Table 5.2.6, and any sub-tables contained within, locate the desired GPS and/or FMC signal type	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this table.	PP18 (J2-B3) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	←--------Open--------➔ ← PPCOM; J1A-26 ➔ ← DO #1; J2-A1 ➔ ← DO #2; J2-A2 ➔ ← DO #4; J2-B13 ➔ ← DO #6 J1A-21 ➔ ← DO #7; J1B-9 ➔ ← DO #8; J1B-10 ➔ ← DO #9; J1B-11 ➔ ← DO #10; J1B-33 ➔	PP1 (J2-B2) ←1_____ ←2_____ ←3_____ ←4_____ ←5_____ ←6_____ ←7_____ ←8_____ ←9_____ ←10____	_____ ID #
7	Selects Terrain Data (TA&D): a) Display Config. b) Data Input Bus c) TA&D Disable/TCF Disable	Using Table 5.2.7, and any sub-tables contained within, locate the desired Displ. Config, Data Input & Data Output, then select the True or False condition for TA&D/TCF disable function	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this table.	PP19 (J2-B5) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	←--------Open--------➔ ← PPCOM; J1A-26 ➔ ← DO #1; J2-A1 ➔ ← DO #2; J2-A2 ➔ ← DO #4; J2-B13 ➔ ← DO #6 J1A-21 ➔ ← DO #7; J1B-9 ➔ ← DO #8; J1B-10 ➔ ← DO #9; J1B-11 ➔ ← DO #10; J1B-33 ➔	PP2 (J2-B4) ←1_____ ←2_____ ←3_____ ←4_____ ←5_____ ←6_____ ←7_____ ←8_____ ←9_____ ←10____	_____ ID #
8	Selects Altitude Callouts: a) Callout Menu (Also see Step 17)	Using Table 5.2.8, locate the desired Altitude Call-Out Menu.	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on Ident column of this table.	PP8 (J2-A14) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	←--------Open--------➔ ← PPCOM; J1A-26 ➔ ← DO #1; J2-A1 ➔ ← DO #2; J2-A2 ➔ ← DO #4; J2-B13 ➔ ← DO #6 J1A-21 ➔ ← DO #7; J1B-9 ➔ ← DO #8; J1B-10 ➔ ← DO #9; J1B-11 ➔ ← DO #10; J1B-33 ➔	PP24 (J2-A13) ←1_____ ←2_____ ←3_____ ←4_____ ←5_____ ←6_____ ←7_____ ←8_____ ←9_____ ←10____	_____ ID #
9	Selects Audio Level Mode 6 Volume Reduction	Using Table 5.2.9 and any sub-tables contained within, locate the desired Audio Output Level	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this table.	PP22 (J2-A9) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	←---------Open ←PPCOM; J1A-26 ← DO #1; J2-A1 ← DO #2; J2-A2 ← DO #4; J2-B13 ← DO #6, J1A-21 ← DO #7; J1B-9 ← DO #8; J1B-10 ← DO #9; J1B-11 ← DO #10; J1B-33		_____ ID #

Step (Category)	Signal Selection	Instruction		PROG. PIN/STATE	Connect to Discrete outputs	PROG. PIN/STATE	Ident No.
10	Selects Group 1 Options: a) Display Pop Up b) Flap Reversal c) Obstacle Awareness Enable	Using Table 5.2.10 Select the desired True or False condition for each one of the two Options (functions) listed within.	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this of this table.	PP10 (J1A-14) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	←---------Open ←PPCOM; J1A-26 ← DO #1; J2-A1 ← DO #2; J2-A2 ← DO #4; J2-B13 ← DO #6, J1A-21 ← DO #7; J1B-9 ← DO #8; J1B-10 ← DO #9; J1B-11 ← DO #10; J1B-33		_____ ID #
11	Selects Group 2 Options: a) Mode 6 Vol. Reduction. b) Smart Callout c) Bank Angle	Using Table 5.2.11 Select the desired True or False condition for each one of the three Options (functions) listed within.	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this table.	PP12 (J1A-28) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	←---------Open ←PPCOM; J1A-26 ← DO #1; J2-A1 ← DO #2; J2-A2 ← DO #4; J2-B13 ← DO #6, J1A-21 ← DO #7; J1B-9 ← DO #8; J1B-10 ← DO #9; J1B-11 ← DO #10; J1B-33		_____ ID #
12	Selects Group 3 Options: a) ARINC 743 GPS Select b) Audio Declutter c) Enables WS Voice.	Using Table 5.2.12 Select the desired True or False condition for each one of the three Options (functions) listed within.	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this table	PP11 (J1A-27) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	←---------Open ←PPCOM; J1A-26 ← DO #1; J2-A1 ← DO #2; J2-A2 ← DO #4; J2-B13 ← DO #6, J1A-21 ← DO #7; J1B-9 ← DO #8; J1B-10 ← DO #9; J1B-11 ← DO #10; J1B-33		_____ ID #
13	Selects: a) Voice menu	Using Table 5.2.13 and any sub-tables contained within, locate the desired Voice menu type, then select the desired condition for Windshear Voice.	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this table.	PP3 (J2-B6) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	←---------Open ←PPCOM; J1A-26 ← DO #1; J2-A1 ← DO #2; J2-A2 ← DO #4; J2-B13 ← DO #6, J1A-21 ← DO #7; J1B-9 ← DO #8; J1B-10 ← DO #9; J1B-11 ← DO #10; J1B-33		_____ ID #
14	Selects: Input/output program pins discretes.	Using Table 5.2.14 Select the desired input output discrete state.	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this of this table.	PP4 (J2-B7) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	←---------Open ←PPCOM; J1A-26 ← DO #1; J2-A1 ← DO #2; J2-A2 ← DO #4; J2-B13 ← DO #6, J1A-21 ← DO #7; J1B-9 ← DO #8; J1B-10 ← DO #9; J1B-11 ← DO #10; J1B-33		_____ ID #

Step (Category)	**Signal Selection**	**Instruction**		**PROG. PIN/STATE**	**Connect to Discrete outputs**	**PROG. PIN/STATE**	**Ident No.**
15	Selects Parity **If the number of program pins is even, then parity is valid (TRUE). If the number of pins is odd then parity is invalid (FALSE).**	Using this table or Figure 5.1, count the number of Ppins strapped, then determined if parity is TRUE or FALSE.	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this of this table.	PP5 (J2-B9) _____1➔ _____2➔	←---------Open ←PPCOM; J1A-26		Parity
16	Optional Input Selection (Selects PWS Input)	Using Table 5.2.16 Select the desired PWS input channel(s).	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this of this table.	PP7 (J2-A12) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	←---------Open ←PPCOM; J1A-26 ← DO #1; J2-A1 ← DO #2; J2-A2 ← DO #4; J2-B13 ← DO #6, J1A-21 ← DO #7; J1B-9 ← DO #8; J1B-10 ← DO #9; J1B-11 ← DO #10; J1B-33		_____ ID #
17	Selects Group 4 Option(s): a) Peaks Enable b) GPS Altitude Refernce c) Add 500 Callout Option	Using Table 5.2.17 Select the desired True or False condition for the Options (functions) listed within.	1) Record (check mark) the state of the program next to the State number. 2) After determining the state of the program pin (s), Record the Ident (ID No.) on the space available on the Ident column of this of this table.	PP23 (J2-A11) _____1➔ _____2➔ _____3➔ _____4➔ _____5➔ _____6➔ _____7➔ _____8➔ _____9➔ ____10➔	←---------Open ←PPCOM; J1A-26 ← DO #1; J2-A1 ← DO #2; J2-A2 ← DO #4; J2-B13 ← DO #6, J1A-21 ← DO #7; J1B-9 ← DO #8; J1B-10 ← DO #9; J1B-11 ← DO #10; J1B-33		_____ ID #

Program Pin Strapping Data Collection

The following figure can be used to collect all data obtained from Table 5.1. Fill in the blank circles to record program pin strapping, also fill ID # in the blanks space supplied. **Note:** Names for discrete outputs in the figure do not apply to all aircraft types. For example DO #2 may be used for Windshear Warning on some installations but used for other purposes (or not at all) on others. *For the purpose of program pin strapping, the actual hardware pin numbers are still applicable.*



1. All Discrete Outputs that are NOT pulled up to at least 12Vdc, **MUST be Diode Isolated**. Cold lamp impedance must be greater than 15 ohms for Program Pins to work.
2. Count Program Pin connections to states 2 through 10 in Category 1 through 14,16 and 17. If the number is even connect this pin (Ppin-5) to Program Pin Common. The total count of program pins connected to states 2 through 10 **MUST be ODD**.

FIGURE 5.1: PROGRAM PIN STRAPPING

5.2 Configuration Summary Table

Document Revision History, Section 5.2

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/17/97 - G Ostrom	Table 5.2	Removed Sim reposition from Category 3 and steep approach from Category 4. Revised ID numbers for Cat 3, 4, 7, and 14 due to changes in those categories.	202	202
11/20/97 - A Loos	All	Removed effectivity column from Table 5-2 and associated description. Added words on limitations on selection of combinations.	202	202
11/25/97 - G Ostrom	All	Revised King Air selection of category 9 (audio output level) from 3 to 0.	202	202
11/26/97 - G Ostrom	All	Revised Test Aircraft Type 1 and 2 selection of category 6 and 7 to ensure capability with other categories.	202	202
12/02/97 - G Ostrom	All	SCR 2376, Revised Aircraft Type 28, 29,and 30 of selection category 7 to include ID 0.	202	202
12/02/97 - G Ostrom	All	SCR 2379, Revised Aircraft Type 1 and 2 of selection category 2 to include ID 0.	202	202
12/03/97 - G Ostrom	All	SCR 2381, Revised King Air, AAL 727-200, AAL DC-10/10/30 and all simulators of selection category 13 from ID 1 to 0. Revised DC-10/10/30 simulators selection category 2 from ID 0 to 1. Updated Parity selection.	202	202
2/19/98 – A. Anderson	All	SCR 2578: Added a/c types 10, 34, 35, 36, 38 and 39. Added Saab a/c type 3. Removed prefix letters "AAL" from a/c types 6, 11, 14, 19, 23, 27. Added "/40" after DC-10-30, a/c types 14 and 27. Added category 7, ID 6 to a/c types 8, 9, 28, 29 and 30. Added category 7, ID 8 to ATR a/c type 3.	204	204
3/02/98 – A. Anderson	All	SCR 2580: Added additional ID options to category 7.	204	204
3/03/98 – A. Anderson	All	SCR 2580: Modified ID options for category 7.	204	204
03/12/98 – B. Breen	All	SCR 2588: Added a/c type 16, BA 747-200.	204	204
03/16/98 - G Ostrom	Table 5.2	SCR 2619: Replaced "No Windshear" with AOA type for the Citation Bravo, as Windshear is now enabled.	204	204
03/20/98 – A. Anderson	Table 5.2	SCR 2578: Changed Aircraft/Customer field of ID16 to B747-100/200/300. Removed "British Airways".	204	204
03/20/98 – A. Anderson	Table 5.2	SCR 2580: Updated Category 7 options for A/C 3, 6, 8 ,9 ,10 ,11 ,14 ,28 ,29 ,30 ,31 ,34 ,35 ,36 ,38 & 39. Updated Category 3 options for A/C 29 & 30.	204	204
03/26/98 – P. Blankas	Table 5.2	SCR 2616: Added aircraft type 40	204	204
04/03/98 – B. Breen	Table 5.2	SCR 2588: Added single/dual rad alts as allowable for a/c type 16, 747-100/200/300.	204	204
04/15/98 - G Ostrom	All	Added a/c type 4 and 5, No Windshear types. Added additional ID options to all categories. Updated description of table and limitations statement.	204	204
04/16/98 - G Ostrom	Table 5.2	Revised voice menu selection for A/C 0, 1,and 2 as voice menu 3 is spare now.	204	204

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
04/27/98 - G Ostrom		SCR 2684: Revised summary table to remove Nav ID 1 from all but the test Aircraft types. Revised aircraft type 16 and 40 to remove Position Configuration IDs 10 and 12 (synchro heading).	204	204
05/01/98 - S. Gagnon	All	Added Program Pin Guidelines, Figures 5.2-1,-2,-3.	204	204
06/05/98 – A Loos	Table 5.2	SCR 2822: Change ATR-42/72 Category 7 from "1/8" to "1/4", "reference only" change.	204	204
07/15/98 – G. Gilliland	Table 5.2	SCR 2897: Add A/C Type 20 with default categories	206	206
07/27/98 – J. Kistler	Table 5.2	SCR 3001: Add A/C Types 44 & 45 for CL600/601	206	206
07/30/98 – J. Kistler	Table 5.2	SCR 3002: Changed CL600 & CL601 Cat 4 specification from 2 to 3	206	206
07/30/98 – L. Matter	Table 5.2	SCR 2996: Add A/C Type 46 for Beechjet 400	206	206
08/04/98 – R. Halbert	Table 5.2	SCR 3017: Add A/C Type 37 for Lear 31A	206	206
08/07/98 – J. Mulkins	Table 5.2	SCR 2975: Add A/C Type 32 for Lear 55 SCR 2976: Add A/C Type 33 for Lear 35	206	206
08/10/98 – P. Blankas	Table 5.2	SCR 2899: Add A/C Type 43 UPS DC-8 with PLI SCR 2900: Add A/C Type 42 UPS 727 with PLI	206	206
08/14/98 – MJC	Table 5.2	SCR 3043: Add A/C Type 47 for Lear 35 50° AOA.	206	206
08/31/98 – N. Paterson	Table 5.2	SCR 2865: Added A/C Type 7 for No Windshear BJ Bank Angle and FDS-255 Display	206	206
09/10/98 - G Ostrom	Table 5.2	Revised Aircraft Type 43 selection of position category from 0 to 23.	206	206
09/18/98 – Gary Boyd	Table 5.2	SCR 3125: Added Category 7 Display ID 20 to Aircraft ID's 28, 29, and 31.	206	206
23/NOV/98 – S. Arnett	Table 5.2	SCR 3327: The following are "reference only" changes. Changed Canadair CL601 Category 7 from "1" to "1/4". Changed ATR-42/72 Category 7 from "1/4" to "1/13", for SPZ8000 (older style) display added in rel 12. Revised "G-IIB/G-II" to "G-IIB/G-III". Changed G-II and G-IIB/G-III Category 7 from "1/4/6/7/8" to "1/4/6/7/8/14" for FDS-255 display added in rel 12.	-	-
2/DEC/98 – J. Kistler	Table 5.2	SCR 3328: Added A/C Type 50 for ASTRA SP	208	208
2/DEC/98 – J. Kistler	Table 5.2	SCR 3329: Added A/C Type 51 for Westwind II	208	208
07/DEC/98 – R. Foster	Table 5.2	SCR 3318: Add deHavilland Dash 8 aircraft.	208	208
22/DEC/98 – M. Force	Table 5.2	SCR 2881: Add A/C Type 13 for DC-9 & C-9	208	208
22-Dec-98-G.Burlingame	Table 5.2	SCR 3412: Added Air Data Types 16/17, Position Type 8, and Display Type 7 to Aircraft Type 16 SCR 2901: Add A/C Type 42 for UPS 747 w/PLI	208	208
08-Jan-99- G. Burlingame	Table 5.2	SCR 3307: Added A/C Type 55 for Falcon 10/100 SCR 3404: Modified A/C type 5 to include Air Data 18, Att/Accel 5, Nav. 3, Display 2 for ATA L1011 SCR 3440: Added A/C Types 52-54 for UPS Sims	208	208
29-JAN-99 - NSP	Table 5.2	SCR 3012 Added A/C Type 48 for C-141. SCR 3134: Added A/C Type 49 for C-130 SCR 3371: Added A/C type 56 for AS King Air Added Category 16 and 17 to table.	208	208
22 Feb 99 – Susie Schmitt	Table 5.2	SCR 3424: Added RA type 7 to AC005	208	208

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
24-MAR-99 – A Loos	Table 5.2	Correct footer problems. Table 5.2 make Category 16 and 17 description match actual category name.	-	-
30-MAR-99 – M. Grigore	Table 5.2	SCR 3717: Added Air Data type 13 and 24 to AC006, 019, 020, 040, 041.	-210	-210
05-APR-99 – M. Grigore	Table 5.2	SCR 3737: Added Air Data type 25 to AC 005, 006, 016, 019, 020, 040-043, 052-054.	-210	-210
10 MAR 99 R. W. Halbert	Table 5.2	SCR 3964 Added A/C Type 57 for L1011 SCR 3965 Added A/C Type 58 for A300 SCR 3626 Added A/C Type 59 for B747 SP SCR 3626 Added A/C Type 60 for DC 9-10 SCR 3626 Added A/C Type 61 for DC 9-21 SCR 3626 Added A/C Type 62 for DC 8 SCR 3626 Added A/C Type 63 for BAC 111	-210 -210 future future future future future	-210 -210 future future future future future
01-JUN-99 – A Loos	Table 5.2	SCR 3840: Added A/C Type 64 SCR 3830: Added A/C Type 65	future	future
01-JUL-99 – Gary Boyd	Table 5.2	SCR 3852: Added for A/C 16, Cat 7, ID 25. SCR 3850: Added for A/C 39, Cat 7, ID 30. SCR 3382: Added for A/C 42, Cat 7, ID 31 SCR 3822: Added for A/C 37, Cat 7, ID 29.	-210	-210
16-JUL-99 – A Loos	Table 5.2	SCR 3830: Added A/C Type 65 details	future	future
23-AUG-99 – S. Arnett	Table 5.2	SCR 3962: Added A/C Type 66 for Citation Encore.	-	-210
22-SEP-99 R.W. Halbert		SCR 3626 Removed Position Input ID 8 from Table 5.2 for the B747 SP	future	future
11-OCT-99 – A Loos	Table 5.2	SCR 4334: Added details for VP/UP-3 configuration and corrected format errors. SCR 4443: Update Aircraft Series 13, 14, 16,and 39: to reflect current ID usage. SCR 3382: Aircraft Series 16: Replace Id 31 with 32 in Terrain Display; add ID 23 to Air Data; add ID 4 to Nav. Inputs; add ID 84 to Position Inputs.	210	210
15-OCT-99 – A Loos	Table 5.2	SCR 4485: Aircraft Type 42; removed ID 31 from Cat. 7 Terrain Display.	210	210
20-DEC-99 – M. Henderson	Table 5.2	SCR 4751: Changed A/C Type 59 for B747 SP to release –212.	-212	-212
14-MAR-00 – S. Arnett	Table 5.2	SCR 4939: Added Nav Input ID 10 to A/C type 31. SCR 4862: Added Display Input ID 34 and 35 to A/C 28, 29, 38, and 39. Added Display Input ID 27 to A/C 38 and 39 (-210).	-212	-212
03-APR-00 – P. Bateman	Table 5.2	SCR 4998: Added A/C Type 67.	-212	-212
01-MAY-00 – M. Henderson	Table 5.2	SCR 4751: Changed A/C Type 59 for B747 SP back to “future” release.	future	future
02-JUN-00 – M. Henderson	All	SCR 4942: Document cleanup. Removed table 5.2 figures 5.2-1, 5.2-2, and 5.2-3.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-

LIMITATIONS: The described use of program pins provides for maximum flexibility in selection of input sensors and output behavior. Every attempt has been made to avoid pin assignment conflicts between categories, to reflect the known configurations of aircraft, and to minimize wiring changes when upgrading from existing GPWS installations. However, in the case of input sensors (Categories 1 through 6), it should not be construed that all possible combinations are valid configurations. There may be combinations that produce pin assignment conflicts or may not be supported by the EGPWS software configuration building process (in this case the MK VII EGPWS will fail in an obvious way). In general you can not have redundancy through mixing both analog and digital signals sources. Redundant digital signals on different buses are allowed. As it is not practical to verify all possible sensor combinations, verification of particular sensor combinations is part of the installation certification process. Contact Honeywell International, an authorized dealer/installer, or www.EGPWS.com for installation support.

5.2.1 Category 1, Aircraft Type Select (Ppin 21, Ppin 20)

Document Revision History, Section 5.2.1

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
		NOTE: FOR AUDIT TRAIL PRIOR TO 1999, SEE PREVIOUS RELEASES OF THE DOCUMENT.		
05-Jan-99 – G. Burlingame	Tables 5.2.1, 5.2.1-52, -53, -54 Table 5.2.1.1-30	SCR 3440: Added 747, 727, and DC-8 Simulator A/C types with PLI. Added Simulator AOA with SM and PLI.	-	-208
06-Jan-99 – G. Burlingame	Tables 5.2.1, 5.2.1-55 Table 5.2.1.1-31	SCR 3307: Added Falcon 10/100 A/C Type #55 Added Falcon 10/100 AOA/Flap Type 31	-	-208
07/JAN/99 – N .Menzies	Table 5.2.1-3	SCR 3441: Replaced Config Data item “TurboProp” with “Mode4Type” and changed the value to “2”.	-	-208
08/JAN/99 - NSP	Table 5.2.1-48	SCR 3012: Added C-141 A/C type 48		-208
	Table 5.2.1-49 Table 5.2.1.1-32	SCR 3134: Added C-130 A/C type 49 Add AOA/Flap for C-130		-208
	Table 5.2.1-56	SCR 3371: Added King Air (C-130) A/C type 56		-208
	Table 5.2.1-50-55 Table 5.2.1.1-26-32	Corrected traceability Corrected traceability		
18/JAN/99 – L. Caldeira	Tables 5.2.1-48, 49, 56	SCRs 3012/3134/3371: Deleted ‘Use Pseudo Altitude’. Only ‘Pseudo Altitude Type’ is needed.	-	-208
21-JAN-99 - NSP	Table 5.2.1-48	SCR 3012: Added Alt G/S Cancel Limit altitude to A/C type 48.		-208
22-JAN-99 - NSP	Tables 5.2.1-48, 49, 56	SCRs 3012/3134/3371: Deleted Flaps Ovrd Type		-208
05-FEB-99 - NSP	Tables 5.2.1-48, 49, 56	SCRs 3012/3134/3371: Corrected Mode 6 Type values.		-208
11-FEB-99 – A Loos	Tables 5.2.1-48, 49, 56	SCRs 3012/3134/3371: Add “Select Approach Term B” to configuration.		-208
12-FEB-99–G. Burlingame	Table 5.2.1.1-18	SCR 2901: Changed AOA scaling reference		-208
02-MAR-99 – G. Ostrom	Table 5.2.1	SCR 3281: Corrected Effectivity for Aircraft types 28 Citation V/Ultra (Teledyne AOA) and 29 Citation V/Ultra (Safeflight AOA) from 202-202 to 206-206. Corrected Effectivity for Aircraft types 31 Citation Bravo (Safeflight AOA), 38 Gulfstream G-II (Teledyne AOA), and 39 Gulfstream G-IIB/G-III (Teledyne AOA) from 204-204 to 206-206.	-	-
02-MAR-99 – L. Matter	Table 5.2.1.1-7	Corrected documentation error, changed from © to (C)	-	-
24-MAR-99 – A Loos	-	Correct table format errors and changed from © to (C) in remaining locations.	-	-
26-MAR-99 – J. Kistler	Table 5.2.1	Added comment to indicate windshear not functional on Falcon 20F (Conrac/Gulton AOA)	-	-
26-MAR-99 – J. Kistler	Table 5.2.1.1-31	Added comment for Falcon 10/100 Teledyne SLZ-9164	-	-
30-MAR-99 – L. Caldeira	Table 5.2.1-x	SCR 3446: Comment only. Removed unused Turbo Prop item.	-	-

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
10 MAR 99 R. W. Halbert	Table 5.2.1-57 Table 5.2.1-58 Table 5.2.1-60 Table 5.2.1.1-36 Table 5.2.1-61 Table 5.2.1.1-37 Table 5.2.1-62 Table 5.2.1.1-38 Table 5.2.1 (added all)	SCR 3964 Added A/C Type 57 for L1011 SCR 3965 Added A/C Type 58 for A300 SCR 3626 Added A/C Type 60 and AOA type 36 for DC 9-10 SCR 3626 Added A/C Type 61 and AOA type 37 for DC 9-21 SCR 3626 Added A/C Type 62 and AOA type 38 for DC 8	-210 -210 -214 -214 -214	-210 -210 -214 -214 -214
26-APR-99 – M. Grigore	Table 5.2.1.1-12	SCR 3815: Updated Table 5.2.1.1-12 Trailing Edge Up information.	-210	-210
05-MAY-99 – A Loos	Table 5.2.1. Table 5.2.1-64 Table 5.2.1.-65 Table 5.2.1.1-40 Table 5.2.1.1-41	SCR 3840: Add ID 64 for VP/UP-3 (Preliminary info) SCR 3830: Add ID 65 for C-2A (Preliminary info)	-210	-210
05-MAY-99 – A Loos	Table 5.2.1. Table 5.2.1-64 Table 5.2.1.-65 Table 5.2.1.1-40 Table 5.2.1.1-41	SCR 3840: Update ID 64 for VP/UP-3 and SCR 3830: Update ID 65 for C-2A: Assign existing Military Modes to Aircraft for interface testing. Add in real Table 5.2.1.1-40. Delete "reserved" Table 5.2.1.1.-41	-210	-210
01-JUN-99 – A Loos	Table 5.2.1-64	SCR 3840: Update ID 64 Mode 2 Type to "2" for VP/UP-3.	-210	-210
01-JUN-99 – N Paterson	Table 5.2.1-65	SCR 3837: Added Bank Angle configuration data	-210	-210
07-JUN-99 – N Paterson	Table 5.2.1-64	SCR 3840: Added Mode 1 Type configuration data Added Bank Angle type configuration data.	-210	-210
10-JUN-99 – A Loos	Table 5.2.1-64	SCR 3840: Change Landing Flap entry to N/A	-210	-210
17-JUN-99 – N Paterson	Revision History	Changed 7-JUN-99 reference from SCR 3841 and 3842 to 3840	-	-
07-JUL-99 – A Loos	Table 5.2.1-65	SCR 3830: Update ID 65 Mode 4 Type to "12". Fill in SRD reference TBDs.	-210	-210
12-JUL-99 – MJC	Tables 5.2.1.1-2, -26, -36 and –37.	SCR 4017: Added notes about DC-9 and DC-10 flap reference polarity (H and C swapped).	-	-
16-AUG-99 – A Loos	Table 5.2.1.1-40	SCR 3830: Renumber Table 5.2.1.1-41 to -40.	-210	-210
23-AUG-99 – S. Arnett	Table 5.2.1 Table 5.2.1-66 Table 5.2.1.1-41	SCR 3962: Added A/C Type 66 for Citation Encore.	-	-210
02-SEP-99 R.W. Halbert	5.2.1.1-33 5.2.1.1-34	SCR 3964 Added input reference, removed 2nd flap SCR 3965 Added input reference, removed 2nd flap	-210 -210	-210 -210
17-SEP-99 R.W. Halbert	5.2.1.1-34	SCR 3965 Added 28 Volt AOA Validity	-210	-210
21-SEP-99 – A Loos	Table 5.2.1-65 Table 5.2.1.1-40	SCR 3830: Remove Flap Angle Processing.	-210	-210
21-SEP-99 – A Loos	Table 5.2.1-65	SCR 3830: Change Mode 6 Type to 2.	-210	-210
27-Sep-99 – A Loos	ALL	SCR 4334: Correct format errors	-	-
30-NOV-99 – A Loos	Table 5.2.1-64 & 65	SCR 4673: Added configuration item Altimetry Type 3 to VP/UP-3A and C-2A aircraft.	-212	-212
06-DEC-99 – A Loos	Table 5.2.1 Tables 5.2.1-64 & 65	SCR 4707: Change A/C type 64 and 65 to –212 effectivity, delete Note 2 SCR 4706:Change A/C Type 65 Mode 3 Type to Type 5.	-212	-212

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
20-DEC-99 – M. Henderson	Table 5.2.1.1-35	SCR 4751: Changed A/C Type 59 for B747 SP to release –212.	-212	-212
15-Feb-00 – A Loos	Table 5.2.1-64	SCR 4843: Change Bank Angle and Pseudo Altitude Types	-212	-212
15-Feb-00 – A Loos	Table 5.2.1	Add pin numbers to table header. Correct application note on ID 35.	-	-
03-APR-00 – P. Bateman	Table 5.2.1, Table 5.2.1-67, Table 5.2.1.1-42	SCR 4998: Added Falcon 200 A/C Type #67 Added Falcon 200 AOA/Flap Type 42	-212	-212
19-MAY-00 – M. Henderson	Table 5.2.1.1-35	SCR 4751: Changed A/C Type 59 for B747 SP back to release future.	-213	-213
02-JUN-00 – M. Henderson	Table 5.2.1.1-32, 5.2.1.1-40	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
09-JUN-00 – A Loos	Table 5.2.1-64	SCR 5208: Change Mode 1 Type to 9	-213	-213
06-JUL-00 – L. Caldeira	Tracing	SCR 5218: Delete 5.2.1 tracing. Comment change only.	-	-
02-AUG-00 - P. Bateman	Tables 5.2.1 5.2.1-3 5.2.1-4 5.2.1-5 5.2.1-7 5.2.1-49 5.2.1-56 5.2.1-64 5.2.1-65	SCR 5301: Added Windshear INOP Disable to tables. Expanded Note 1 on Table 5.2.1	-213	-213
10-AUG-00 – M. Henderson	Table 5.2.1.1-35	SCR 4751: Changed A/C Type 59 for B747 SP to release –213.	-213	-213
7-Nov-00 – A Loos	Table 5.2.1-65	SCR 5479: Change A/C Type 65 Mode 1 Type from 2 to 10.	-214	-214
13-DEC-00 – M. Henderson	Table 5.2.1.1-35	SCR 4751: Removed AOA validity discretes.	-213	-213
05-JAN-01 – N Menzies	Revision History	SCR 5301: Updated the entry for 02-AUG-00 to include table 5.2.1-56 and changed the effectivity to -213.	-	-
08-JAN-01 – M. Henderson	Table 5.2.1.1-35	SCR 4751: Removed AOA validity discretes references from signals.	-213	-213
10-JAN-01 – L. Caldeira	Table 5.2.1-xx	SCR 5765: Removed ‘Steep Approach Type’ from all tables, since it is unused. Comment change only.	-213	-213
31-JAN-01 – M. Henderson	Table 5.2.1.1.-35 Table 5.2.1.-59	SCR 4751: Removed ‘future’ in hidden text for traceability purposes.	-213	-213
02-FEB-01 – M. Henderson	Table 5.2.1.-59	SCR 4751: Fixed tracing problem.	-213	-213
27-FEB-01 – A. Loos	Table 5.2.1.-65	SCR 5856: Revised “Select Approach Term B” for C-2A Aircraft Type.	-214	-214
14-Mar-01 – A Loos	Table 5.2.1.-65	SCR 5856: Revised “future” “Select Approach Term B” for C-2A Aircraft Type to 280	-214	-214
14-Jun-01 – A Loos	Table 5.2.1.-65	SCR 6179: Revised “future” “Mode 6 Type” for C-2A Aircraft to 6	-214	-214

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
21-Jun-01 – A Loos	Table 5.2.1.-65	SCR 6179: Revised "future" "Mode 6 Type" for C-2A Aircraft to 4	-214	-214
22-Jun-01 – J. A. Harris	Table 5.2.1 Table 5.2.1-60-62	SCR 3626 Revised "App"/"Cfg" for Type 60 DC9-10 SCR 3626 Revised "App"/"Cfg" for Type 61 DC9-21 SCR 3626 Revised "App"/"Cfg" for Type 62 DC8 SCR 3626 Removed "future" from hidden text for traceability purposes	-214	-214
17-JUL-01 – L. Caldeira	Throughout	SCR 3626/5479/5856/6179: Removed future from all audit trail and req entries. Deleted all BAC 111 (a/c 63 and AOA 39) reqs and audit trail entries, since it was decided not to implement that a/c type.	-214	-214
10-SEP-01 – Krish	Table 5.2.1 Table 5.2.1-68 Table 5.2.1.1-43	SCR 3308: Added a new aircraft type for Cessna – Citation II (Teledyne AOA) windshear enabled.	-214	-214
21-SEP-01 – Krish	Table 5.2.1 Table 5.2.1-32	SCR 6375: Document only change to change to aircraft name to include Lear 55B and 55C	-	-
26-SEP-01 – L. Caldeira	Table 5.2.1-61 Table 5.2.1.1-37	SCR 3626: Deleted AOA type 37, since it's the same as AOA type 26. Changed AC type 61 to use AOA type 26 instead of 37.	-214	-214
27-SEP-01 – L. Caldeira	Table 5.2.1-28, 29, 31, and 66.	SCR 4466: Removed INOP & Warning in Same Window config line.	-	-
28-SEP-01 – M. Henderson	Table 5.2.1.1-36	SCR 3626: Corrected AOA signal description.	-214	-214
27-NOV-01 – N Paterson	All	SCR 6053: General cleanup		
28-NOV-01 - N Paterson	Table 5.2.1	SCR 6525: Added Traceability		
14-DEC-01 – N Paterson	Table 5.2.1	SCR 6609: Add Aircraft ID 63	-214	-214
5-Feb-02 – A Loos	Table 5.2.1.63	SCR 6614: Change Simulator Reposition Enable from FALSE to TRUE	-216	-216
01-MAR-02 – A. Dahlgren	Table 5.2.1-xx Note 2	SCR 3181: Added Note 2 and reference to all 5.2.1-xx tables.	-216	-216
06-MAR-02 – Krish	Table 5.2.1-69 Table 5.2.1.1-44 Table 5.2.1	SCR 6775: Added a new A/C Type 69 for Jetstar II Added a new AOA/Flap type 44 for Jetstar II Added the new A/C type 69 to table 5.2.1	-216	-216
18-MAR-02 – S.G.H.Bhatta	Table 5.2.1 Note 2	SCR 3181: Modified Note 2 to indicate Simulator Reposition Enable Reversal by category 5.	-216	-216
02-APR-02 – Krish	Table 5.2.1.1-44	SCR 6775: Changed Flap Position discretes #3 and #4 (ground discretes) to #1 and #2 (28V discretes)	-216	-216
02-APR-02 – Krish	Table 5.2.1.1-44	SCR 6775 – Retained Flap Position Discretes as #1 and #2 but still they would be connected to the ground discrete pins and not 28V pins. A note is added to explain this change	-216	-216
17-JUN-02 – Gary Boyd	Table 5.2.1	SCR 6608: Added additional description for aircraft ID's 48, 49, 50, 51, 56, 58, 64, and 65.	-	-
05-MAR-04 – Gill	Table 5.2.1.1-7 Table 5.2.1.1-18 Table 5.2.1.1-35	SCR 7656: Added Configuration Data to support AOA Synchro Monitor.	-220	-220
17-MAR-04 – Gill	Table 5.2.1.1-7 Table 5.2.1.1-18 Table 5.2.1.1-35 (remove changes) Table 5.2.1-16 Table 5.2.1-42 Table 5.2.1-59 (added changes)	SCR 7656: Moved Configuration Data to support AOA Synchro Monitor from AOA/Flap tables in Section 5.2.1.1 to Aircraft Type tables.	-220	-220

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
21-APR-04 – Gill	Table 5.2.1.1-26	SCR 7949: Document only change. Removed AOA "excitation" connections in table as they are not required.	-220	-220
12-SEP-05 – G. Ostrom	Table 5.2.1-65 Table 5.2.1-65	SCR 8377: Revised table 5.2.1-65 Pseudo Altitude Type from 5 to 1. SCR 8378: Revised table 5.2.1-65 Select Approach Term B 280 to310.	-224	-224
16-FEB-06 – E. Wilmot	Table 5.2.1-65	SCRs 8377 and 8378: Backed out changes resulting from these SCRs.	-	-
16-FEB-06 – E. Wilmot		SCR 8378: Corrected previous audit trail.	-	-
10-MAR-06 – M. Calhoun	Table 5.2.1	SCR 8201: Doc only changes as follows: Type 11: Added '/15'; Type 44: Added (1A11) ; Type 45: Added (2A12); Types 48, 49, 56, 64, 65: Changed 'use with' notes to reference category 14 instead of 8.	-	-
10-MAR-06 – M. Calhoun	Tables 5.2.1.1-13/16	SCR 8201: Doc only changes as follows: Deleted +/- from mechanical range in table 5.2.1.1-13. Replaced copyright symbol with (c) in table 5.2.1.1-16.	-	-
03-MAY-06 – A. Lowe	Table 5.2.1-65	SCR 8521: Revised table 5.2.1-65 'Pseudo Altitude Type' from 5 to 1 and 'Select Approach Term B' 280 to 310.	-226	-226
02-JUN-06 – A. Lowe	Table 5.2.1-65	SCR 8521: Added note to 'Pseudo Altitude Type' to highlight previous update. Clarified note for 'Select Approach Term B'.	-226	-226

The following table provides identification of the basic aircraft type and associated parameters. Each entry in the ID/Aircraft Type column has a corresponding table that provides detailed information on the configuration. For example the details for ID #3 is found in Table 5.2.1-3. In Tables 5.2.1-xx the entry for AOA/Flaps is also an ID. This ID provides a reference to the table in Section 5.2.1.1. For example, an AOA/Flaps ID of 2 corresponds to Table 5.2.1.1-2.

In this category only the following signals are to be defined:

- Flap Position, with analog, discrete position, or ARINC 429 format, and associated validity.
- Angle of Attack analog or ARINC 429 format, and associated validity.

In cases where the above signals are on an ARINC 429 bus with other signals, you may:

- In the other categories select the same bus with the **same Fault Designation name and Channel** connection as this category. In this case a single physical bus with a single connection satisfies more than one category, or;
- In the other categories select a **different bus Fault Designation name and Channel** connection and wire the connections to the same source (if loading permits). Note: In this case a single physical bus failure will result in multiple bus names being faulted in the MK VII EGPWS Self Test. In this case a single physical bus with multiple connections satisfies more than one category.

Table 5.2.1: Aircraft Type Select (Ppin 21, Ppin 20)

ID/ AIRCRAFT TYPE (Table 5.2.1-xx)	PP 21 State (J2-A8)	PP 20 State (J2-A7)	Aircraft	Windshear Disable[1]	Effectivity	
					App.	Cfg.
0	1	1	Qual Test Config	N	202	202
1	1	2	Test Type 1	N	202	202
2	1	3	Test Type 2	N	202	202
3	1	4	No Windshear (Turbo Prop)	Y	202	202
4	1	5	No Windshear (Biz-Jet)	Y	204	204
5	1	6	No Windshear (Commercial AT)	Y	204	204
6	1	7	B727-200	N	202	202
7	1	8	No Windshear (Biz-Jet Bank Angle, Normal Mode 4)	Y	206	206
8	1	9	Hawker 800 (Safeflight AOA)	N	202	202
9	1	10	Hawker 800 (Teledyne AOA)	N	202	202
10	2	1	Hawker 700 (Teledyne AOA)	N	204	204
11	2	2	DC-10-10/15	N	202	202
12	2	3	spare	N		
13	2	4	DC-9-30, 32 and C-9A,C	N	208	208
14	2	5	DC-10-30/40	N	202	202
15	2	6	spare	N		
16	2	7	B747-100/200/300	N	204	204
17	2	8	spare	N		
18	2	9	spare	N		
19	2	10	727-200 Simulator	N	202	202
20	3	1	727-100	N	206	206
21	3	2	spare	N		
22	3	3	spare	N		
23	3	4	DC-10-10 Simulator	N	202	202
24	3	5	spare	N		
25	3	6	spare	N		
26	3	7	spare	N		
27	3	8	DC-10-30/40 Simulator	N	202	202

[1] Windshear Disable selection is implemented in table 5.2.1-xx. Note also that Windshear INOP Disable is only specified where true (INOP Disabled) in table 5.2.1-xx. Where not specified the software uses a default of false.

ID/ AIRCRAFT TYPE (Table 5.2.1-xx)	PP 21 State (J2-A8)	PP 20 State (J2-A7)	Aircraft	Windshear Disable[1]	Effectivity	
					App.	Cfg.
28	3	9	Citation V/Ultra (Teledyne AOA)	N	206	206
29	3	10	Citation V/Ultra (Safeflight AOA)	N	206	206
30	4	1	Citation III/VI/VII (Teledyne AOA)	N	202	202
31	4	2	Citation Bravo (Safeflight AOA)	N	206	206
32	4	3	Lear 55, 55B, 55C (Conrac/Gulton AOA)	N	206	206
33	4	4	Lear 35 (Conrac/Gulton 60 deg AOA) See type 47 for 50 degree AOA.	N	206	206
34	4	5	Falcon 20F (Teledyne AOA)	N	204	204
35	4	6	Falcon 20F (Conrac/Gulton AOA)	N	210	210
36	4	7	Falcon 50 (Teledyne AOA)	N	204	204
37	4	8	Lear 31A	N	206	206
38	4	9	Gulfstream G-II (Teledyne AOA)	N	206	206
39	4	10	Gulfstream G-IIB/G-III (Teledyne AOA)	N	206	206
40	5	1	Boeing 737-200 ADV	N	204	204
41	5	2	Boeing 727-100 with PLI	N	206	206
42	5	3	Boeing 747-100/200 with PLI	N	208	208
43	5	4	DC –8-71/73 with PLI	N	206	206
44	5	5	Canadair CL600 (1A11)	N	206	206
45	5	6	Canadair CL601 (2A12)	N	206	206
46	5	7	Beechjet 400	N	206	206
47	5	8	Lear 35 (Conrac/Gulton 50 deg AOA) See type 33 for 60 degree AOA.	N	206	206
48	5	9	C-141 (use with Cat 14, ID 8)	N	208	208
49	5	10	C-130 (use with Cat 14, ID 8)	Y	208	208
50	6	1	ASTRA SP (IAI 1125)	N	208	208
51	6	2	Westwind II (IAI 1124A)	N	208	208
52	6	3	Boeing 747-100/200 Simulator w/PLI	N	208	208
53	6	4	DC-8-71/73 Simulator w/PLI	N	208	208
54	6	5	Boeing 727-100 Simulator w/PLI	N	208	208
55	6	6	Falcon 10/100	N	208	208
56	6	7	Honeywell King Air Test aircraft (C130 military modes, use with Cat 14, ID 8).	Y	208	208
57	6	8	L1011-385	N	210	210
58	6	9	Airbus A300-B2/B4	N	210	210
59	6	10	Boeing 747 SP	N	213	213
60	7	1	DC 9-10	N	214	214
61	7	2	DC 9-21	N	214	214
62	7	3	DC 8 ALL	N	214	214
63	7	4	Honeywell King Air with Pitch Alert (Test Only)	Y	214	214
64	7	5	VP/UP-3 (use with Cat 14, ID 8)	Y	212	212
65	7	6	C-2A (use with Cat 14, ID 8)	Y	212	212
66	7	7	Citation Encore (Safeflight AOA)	N	210	210
67	7	8	Falcon 200 (Teledyne AOA)	N	212	212
68	7	9	Citation-II/550 (Teledyne AOA)	N	214	214
69	7	10	Jetstar II (Teledyne AOA)	N	216	216

Note 2: Simulator Reposition Enable Selected by Category 1 (Aircraft Type category) can be reversed by Selecting Simulator Reposition Enable Reversal in Category 5.

Table 5.2.1-0: Aircraft Type 0: Qual Test Configuration

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A1/ ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A1	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	N/A	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	0	

Table 5.2.1-1: Aircraft Type 1: TEST TYPE 1

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A2 /ADPF2	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A2	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	N/A	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	True (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	3	

Table 5.2.1-2: Aircraft Type 2: TEST TYPE 2 (TSO-C117)

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A2 /ADPF2	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	39	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	N/A	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	True (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	3	

Table 5.2.1-3: Aircraft Type 3: No Windshear Turbo Prop

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	N/A	5.15.5.4
Windshear	Windshear type	No	
Windshear INOP Disable	Disables Windshear INOP (lamp and ARINC 429)	True	6.5.1.2.2
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Mode4Type	Selects Turbo Prop mode 4 operation	2	6.2.4.3.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	N/A	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	N/A	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	1	

Table 5.2.1-4: Aircraft Type 4: No Windshear Biz-Jet

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	N/A	5.15.5.4
Windshear	Windshear type	No	
Windshear INOP Disable	Disables Windshear INOP (lamp and ARINC 429)	True	6.5.1.2.2
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	N/A	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	N/A	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	1	

Table 5.2.1-5: Aircraft Type 5: No Windshear Commercial AT

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	N/A	5.15.5.4
Windshear	Windshear type	No	
Winshear INOP Disable	Disables Windshear INOP (lamp and ARINC 429)	True	6.5.1.2.2
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	N/A	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	N/A	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	1	

Table 5.2.1-6: Aircraft Type 6: B727-200

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A3/ ADPF3	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A1	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	27.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	0	

Table 5.2.1-7: Aircraft Type 7: No Windshear Biz-Jet

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	N/A	5.15.5.4
Windshear	Windshear type	No	
Windshear INOP Disable	Disables Windshear INOP (lamp and ARINC 429)	True	6.5.1.2.2
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	N/A	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	N/A	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	1	

Table 5.2.1-8: Aircraft Type 8: Hawker 800 (Safeflight AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A5/ ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	18	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	Monitor for > 1 set. If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	35	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	5 *(Safeflight AOA*)	

Table 5.2.1-9: Aircraft Type 9: Hawker 800 (Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A4/ ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	18	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	Monitor for > 1 set. If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	35	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	6 *(Teledyne AOA*)	

Table 5.2.1-10: Aircraft Type 10: Hawker 700 (Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A9/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	0	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	Monitor for > 1 set. If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	17.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	6 *(Teledyne AOA*)	

Table 5.2.1-11: Aircraft Type 11: DC-10-10

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A6/ ADPF4	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A2	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	28.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	2	

Table 5.2.1-13: Aircraft Type 13: DC-9-30 and C-9A,C

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A16/ADPF8	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A7	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	20	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	26	

Table 5.2.1-14: Aircraft Type 14: DC-10-30/40

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A6/ ADPF5	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A3	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	28.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	2	

Table 5.2.1-16: Aircraft Type 16: B747-100/200/300

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A13, ADPF6	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A5	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	22.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	7	
AOA Synchro Monitor	Selects Synchro Monitor	True	5.15.3.4
AOA Synchro Monitor Threshold	Selects Computed Airspeed threshold to turn on/off AOA Synchro Monitor	60	5.15.3.4

Table 5.2.1-19: Aircraft Type 19: B727-200 Simulator

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A1/ ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A1	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	27.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	True (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	4	

Table 5.2.1-20: Aircraft Type 20: B727-100

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A18/ADPF10	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A9	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	27.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	0	

Table 5.2.1-23: Aircraft Type 23: DC-10-10 Simulator

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A1/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A2	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	28.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	True (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	4	

Table 5.2.1-27: Aircraft Type 27: DC-10-30/40 Simulator

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A1/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A3	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	28.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	True (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	4	

Table 5.2.1-28: Aircraft Type 28 Citation V/Ultra (Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A7/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	0	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	17.5°	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	8 *(Teledyne AOA)*	

Table 5.2.1-29: Aircraft Type 29: Citation V/Ultra (Safeflight AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A7/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	0	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	17.5°	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	9 *(Safeflight AOA*)	

Table 5.2.1-30: Aircraft Type 30 Citation III/VI/VII (Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A8/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	0	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	17.5°	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	10 *(Teledyne AOA*)	

Table 5.2.1-31: Aircraft Type 31 Citation Bravo (Safeflight AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A14/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	0	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	20°	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	15 *(Safeflight AOA*)	

Table 5.2.1-32: Aircraft Type 32 Lear 55, 55B, 55C (Conrac/Gulton AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A19/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	0	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	ALTERNATE FORMAT 2	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	17.5°	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	20 *(Conrac/Gulton AOA*)	

Table 5.2.1-33: Aircraft Type 33 Lear 35 (Conrac/Gulton 60 degree AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A20/ADPF11	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A11	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	ALTERNATE FORMAT 2	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	17.5°	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	21 *(Conrac/Gulton AOA*)	

Table 5.2.1-34: Aircraft Type 34: Falcon 20 F (Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A10/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	22	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	Monitor for > 1 set. If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	36.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	11 *(Teledyne AOA*)	

Table 5.2.1-35: Aircraft Type 35: Falcon 20 F (Conrac/Gulton AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A10/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	22	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	Monitor for > 1 set. If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	36.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	12 *(Conrac/Gulton AOA*)	

Table 5.2.1-36: Aircraft Type 36: Falcon 50 (Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A11/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A4	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	Monitor for > 1 set. If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	17.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	13 *(Teledyne AOA*)	

Table 5.2.1-37: Aircraft Type 37 Lear 31A (Conrac/Gulton AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A20/ADPF11	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A12	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	ALTERNATE FORMAT 2	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	17.5°	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	24 *(Conrac/Gulton AOA*	

Table 5.2.1-38: Aircraft Type 38: Gulfstream G-II (Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A12/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	20	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	36.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	14 *(Teledyne AOA*)	

Table 5.2.1-39: Aircraft Type 39: Gulfstream G-IIB, GIII (Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A12/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	21	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	36.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	14 *(Teledyne AOA*)	

Table 5.2.1-40: Aircraft Type 40: B737-200 ADV

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A15/ ADPF7	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A6	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	27.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	16	

Table 5.2.1-41: Aircraft Type 41: B727-100 with PLI

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A18/ADPF10	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A9	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	27.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	17	
PLI Configuration	Shaker Margin Constants SSM CNF/ADI CNF	0/0	5.49.2, 6.9.6

Table 5.2.1-42: Aircraft Type 42: B747-100/200 with PLI

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A13, ADPF6	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A5	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	22.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	18	
PLI Configuration	Shaker Margin Constants SSM CNF/ADI CNF	0/0	5.49.2, 6.9.6
AOA Synchro Monitor	Selects Synchro Monitor	True	5.15.3.4
AOA Synchro Monitor Threshold	Selects Computed Airspeed threshold to turn on/off AOA Synchro Monitor	60	5.15.3.4

Table 5.2.1-43: Aircraft Type 43: DC8-71/73 with PLI

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A17/ADPF9	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A8	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	29	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	19	
PLI Configuration	Shaker Margin Constants SSM CNF/ADI CNF	1/0	5.49.2, 6.9.6

Table 5.2.1-44: Aircraft Type 44: Canadair CL600 (<u>Rosemount AOA</u>) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A21/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	27	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	Monitor for > 1 set. If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	42.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	22 *(<u>Rosemount AOA</u>)*	

Table 5.2.1-45: Aircraft Type 45: Canadair CL601 (Rosemount AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A21/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	27	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	Monitor for > 1 set. If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	42.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	22 *(Rosemount AOA)*	

Table 5.2.1-46: Aircraft Type 46: Beechjet 400 (Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A22/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	0	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	Monitor for > 1 set. If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	25°	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	23 *(Teledyne AOA)*	

Table 5.2.1-47: Aircraft Type 47 Lear 35 (Conrac/Gulton 50 degree AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A20/ADPF11	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A11	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	ALTERNATE FORMAT 2	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	17.5°	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	25 *(Conrac/Gulton AOA*)	

Table 5.2.1-48: Aircraft Type 48 C-141 - Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial, Boeing, Bizjet, Military or GA	Military	
Aero Data	Selects KAVA/KAVO and DPF	A25/ADPF12	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Number (Commercial = 1, Bizjet=2, etc.)	5	6.4.4.3
Mode 1 Type	Number	2	6.2.1
Mode 2 Type	Number	3	6.2.2
Mode 3 type	Number	3	6.2.3
Mode 4 Type	Number	4	6.2.4
Mode 6 Type	Number	2	6.2.6
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Alt G/S Cancel Limit	Reset Altitude	1500	6.2.5.1.2
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A13	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	28.0 degrees (70%)	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	26.0 degrees (65%)	5.21.4.1
Military Squat	True, False	True	
Simulator Reposition Enable	Selects Simulator Reposition	True (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	29	
Pseudo Altitude Type	Selects Pseudo Altitude Parameters	1	5.1.9
Field Enable Type		1	
Select Approach Term B	Military Takeoff/Approach Limit	310	6.0.2

Table 5.2.1-49: Aircraft Type 49 C-130 – No Windshear

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial, Boeing, Bizjet, Military or GA	Military	
Aero Data	Selects KAVA/KAVO and DPF	N/A	5.15.5.4
Windshear	Windshear type	No	
Windshear INOP Disable	Disables Windshear INOP (lamp and ARINC 429)	True	6.5.1.2.2
Bank Angle Type	Number (Commercial = 1, Bizjet=2, etc.)	6	6.4.4.3
Mode 1 Type	Number	3	6.2.1
Mode 2 Type	Number	2	6.2.2
Mode 3 type	Number	3	6.2.3
Mode 4 Type	Number	4	6.2.4
Mode 6 Type	Number	3	6.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	N/A	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	42%	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	N/A	5.21.4.1
Military Squat	True, False	True	
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	32	
Pseudo Altitude Type	Selects Pseudo Altitude Parameters	1	5.1.9
Field Enable Type		1	
Select Approach Term B	Military Takeoff/Approach Limit	310	6.0.2

Table 5.2.1-50: Aircraft Type 50: ASTRA SP (Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A23/ ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	0	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	Monitor for > 1 set. If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	40	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	27 *(Teledyne AOA*)	

Table 5.2.1-51: Aircraft Type 51: Westwind II (Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A24/ ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	0	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	Monitor for > 1 set. If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	40	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	28 *(Teledyne AOA*)	

Table 5.2.1-52: Aircraft Type 52: B747-100/200/300 Simulator (with PLI)

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A1/ ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A5	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	22.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	True (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	30	
PLI Configuration	SM Const SSM CNF/ADI CNF	0/0	5.49.2, 6.9.6

Table 5.2.1-53: Aircraft Type 53: DC8-71/73 Simulator (with PLI)

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A1/ ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A8	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	29	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	True (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	30	
PLI Configuration	SM Constants SSM CNF/ADI CNF	0/0	5.49.2, 6.9.6

Table 5.2.1-54: Aircraft Type 54: 727-100 Simulator (with PLI)

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A1/ ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A9	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	27.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	True (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	30	
PLI Configuration	SM Constants SSM CNF/ADI CNF	0/0	5.49.2, 6.9.6

Table 5.2.1-55: Aircraft Type 55: Falcon 10/100 (Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A26/ADPF1	
Windshear	Windshear Type	ASA	
Bank Angle Type	Biz vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 Floor	Yes	6.2.4.1
Windshear Parameters	Select ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	0	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	22.5°	5.21.4.1
Simulator Reposition Enable	Selects simulator reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Select Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Tables 5.2.1.1-xx)	Select AOA and flap angle interface configuration	31	

Table 5.2.1-56: Aircraft Type 56: AS King Air with C-130 Functions No Windshear (Test Only)

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial, Boeing, Bizjet, Military or GA	Military	
Aero Data	Selects KAVA/KAVO and DPF	N/A	5.15.5.4
Windshear	Windshear type	No	
Windshear INOP Disable	Disables Windshear INOP (lamp and ARINC 429)	True	6.5.1.2.2
Bank Angle Type	Number (Commercial = 1, Bizjet=2, etc.)	6	6.4.4.3
Mode 1 Type	Number	3	6.2.1
Mode 2 Type	Number	2	6.2.2
Mode 3 type	Number	3	6.2.3
Mode 4 Type	Number	4	6.2.4
Mode 6 Type	Number	2	6.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	N/A	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	N/A	5.21.4.1
Military Squat	True, False	False	
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	1	
Pseudo Altitude Type	Selects Pseudo Altitude Parameters	5	5.1.9
Field Enable Type		1	
Select Approach Term B	Military Takeoff/Approach Limit	310	6.0.2

Table 5.2.1-57: Aircraft Type 57: L1011 Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A27/ADPF13	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A14	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	29.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	33	

Table 5.2.1-58: Aircraft Type 58: Airbus A300 Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A28/ADPF14	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A15	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	11.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	34	

Table 5.2.1-59: Aircraft Type 59: Boeing 747 SP Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A29/ADPF15	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A16	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	28.5	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	35	
AOA Synchro Monitor	Selects Synchro Monitor	True	5.15.3.4
AOA Synchro Monitor Threshold	Selects Computed Airspeed threshold to turn on/off AOA Synchro Monitor	60	5.15.3.4

Table 5.2.1-60: Aircraft Type 60: DC 9-10 Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A30/ADPF16	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A17	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	25	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	36	

Table 5.2.1-61: Aircraft Type 61: DC9-21 Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A31/ADPF17	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	0	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	20	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	26	

Table 5.2.1-62: Aircraft Type 62: DC8 (All DC8 Series) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Commercial	
Aero Data	Selects KAVA/KAVO and DPF	A17/ADPF9	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	1 (Commercial AT)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A8	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	29	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	38	

Table 5.2.1-63: Aircraft Type 63: Honeywell King Air with Pitch Alert (Test Only)

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	N/A	5.15.5.4
Windshear	Windshear type	No	
Windshear INOP Disable	Disables Windshear INOP (lamp and ARINC 429)	True	6.5.1.2.2
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Mode4Type	Selects Turbo Prop mode 4 operation	2	6.2.4.3.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	N/A	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	N/A	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	True (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	1	
Pitch Alert Enable	Selects Pitch Alert	True	6.4.10

Note: This aircraft type is intended for test purposes only.

Table 5.2.1-64: Aircraft Type 64: VP/UP-3

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial, Boeing, Bizjet, Military or GA	Military	
Aero Data	Selects KAVA/KAVO and DPF	N/A	5.15.5.4
Windshear	Windshear type	No	
Windshear INOP Disable	Disables Windshear INOP (lamp and ARINC 429)	True	6.5.1.2.2
Bank Angle Type	Number (Commercial = 1, Bizjet=2, etc.)	9	6.4.4.3
Mode 1 Type	Number	9	6.2.1
Mode 2 Type	Number	2	6.2.2
Mode 3 type	Number	3	6.2.3
Mode 4 Type	Number	4	6.2.4
Mode 6 Type	Number	2	6.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	N/A	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	N/A	5.21.4.1
Military Squat	True, False	True	
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	1 (N/A)	
Pseudo Altitude Type	Selects Pseudo Altitude Parameters	1	5.1.9
Field Enable Type		1	
Select Approach Term B	Military Takeoff/Approach Limit	310	6.0.2
Altimetry Type	Selects EGPWS Altimetry Algorithm	3	5.47

Table 5.2.1-65: Aircraft Type 65: C-2A

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial, Boeing, Bizjet, Military or GA	Military	
Aero Data	Selects KAVA/KAVO and DPF	N/A	5.15.5.4
Windshear	Windshear type	No	
Windshear INOP Disable	Disables Windshear INOP (lamp and ARINC 429)	True	6.5.1.2.2
Bank Angle Type	Number (Commercial = 1, Bizjet=2, etc.)	8	6.4.4.3
Mode 1 Type	Number	10 (was 2 prior to -214)	6.2.1
Mode 2 Type	Number	2	6.2.2
Mode 3 type	Number	5	6.2.3
Mode 4 Type	Number	12	6.2.4
Mode 6 Type	Number	4 (was 2 prior to –214)	6.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	No	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	N/A	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	N/A	5.21.4.1
Military Squat	True, False	True	
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	40	
Pseudo Altitude Type	Selects Pseudo Altitude Parameters	1 (was 5 for -214 to -224)	5.1.9
Field Enable Type		1	
Select Approach Term B	Military Takeoff/Approach Limit	310 (was 280 for -214 to -224)	6.0.2
Carrier Qualified	Aircraft is qualified for Aircraft Carrier operations	Yes	6.0.8.1
Takeoff Power	Takeoff Power Setting used in Takeoff/Approach Logic.	3000	6.0.8.2
Altimetry Type	Selects EGPWS Altimetry Algorithm	3	5.47

Table 5.2.1-66: Aircraft Type 66: Citation Encore (Safeflight AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A33/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	A19	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	17.5°	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	41 *(Safeflight AOA*)	

Table 5.2.1-67: Aircraft Type 67: Falcon 200 (Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A34/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	22	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	Monitor for >1 set. If none of the Flap Position discretes are selected, zero degrees flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	17.5°	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	42 *(Teledyne AOA*)	

Table 5.2.1-68: Aircraft Type 68: Citation II/550(Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A35/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	0	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	N/A	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	15°	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	43 *(Teledyne AOA)*	

Table 5.2.1-69: Aircraft Type 69: Jetstar II/(Teledyne AOA) Windshear Enabled

Configuration Data	Description	Possible States	SRD Section
Aircraft Type	Commercial or Bizjet	Bizjet	
Aero Data	Selects KAVA/KAVO and DPF	A36/ADPF1	5.15.5.4
Windshear	Windshear type	ASA	
Bank Angle Type	Bizjet vs. Commercial curve	2 (Bizjet)	6.4.4
Alternate Mode 4B	Selects Alternate Mode 4 floor	Yes	6.2.4.1
Windshear Parameters	Selects ASA W/S parameters: WNDTHR, KCL, CLO, CLRINV, KQ	0	6.5.1.7.4
Discrete Flap Type	Monitoring requirements for flap position discretes	Monitor for > 1 set. If none of the Flap Position discretes are selected, zero degree flaps is indicated.	5.21.2
Landing Flap	Selects a flap angle to be used to determine landing flaps	N/A	5.21.4
Windshear Landing Flap	Selects a flap angle to be used to determine Windshear landing flaps	19°	5.21.4.1
Simulator Reposition Enable	Selects Simulator Reposition	False (Note 2)	6.0.5
Audio Inhibit Monitoring	Selects Monitoring of Audio Inhibit	No	ICD 6.4.1.18
AOA/Flaps Type (Table 5.2.1.1-xx)	Selects AOA and flap angle interface configuration	44 *(Teledyne AOA)*	

5.2.1.1 AOA/Flap Angle Data Selection

Table 5.2.1.1-0: AOA/Flap Angle Data Select 0

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03 Reference Internal	6.3.1.1.2	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference (H) = J2-G14 (C) = J2-G15	6.3.1.2.2	Format: 5 Wire Synchro Input Type: Windshear Fault Designation: FLAP ANGLE

Table 5.2.1.1-1: AOA/Flap Angle Data Select 1

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
CONNECT No AOA Vane on this aircraft	No Connection		No AOA data
No Flap Position Xducer on this aircraft	No Connection		No Flap data

Table 5.2.1.1-2: AOA/Flap Angle Data Select 2

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA		
AOA Vane #1	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03 Reference Internal	6.3.1.1.5	Format: 3 Wire Synchro + Discrete Validity Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK 1 Validity: AOA Valid Discrete #1 (+28V)		
AOA Vane #2	(X) = J2-C02 (Y) = J2-C01 (Z) = J2-C03 Reference Internal	6.3.1.1.5	Format: 3 Wire Synchro + Discrete Validity Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK 2 Validity: AOA Valid Discrete #2 (+28V)		
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference: (See Note) (H) = J2-G15 (C) = J2-G14	6.3.1.2.3	Format: 5 Wire Synchro Input Type: Windshear Fault Designation: FLAP ANGLE		
PIN FUNCTION	**CONNECTION**	**PIN TYPE**	**CHANNEL DESIGNATION REFERENCE**	**Polarity/Configuration**	**Summary Data**
AOA Valid Discrete #1 (+28V)	J2-G01	Input	28v Disc 01	+28V = Valid 0V = Not Valid	
AOA Valid Discrete #2 (+28V)	J2-E12	Input	28v Disc 23	+28V = Valid 0V = Not Valid	

Note: The reference's polarity is reversed because the flap position synchro rotates in the opposite direction from normal.

Table 5.2.1.1-3: AOA/Flap Angle Data Select 3

CHANNEL RX429-1	CONNECT TO: DSWC #2 (low speed)		Fault Designation: DSWC BUS Bus Type: Windshear					
A = J2-C06 B = J2-C07	Data Indicated Angle of Attack Flap Angle	Reference 6.1.1.1.2 6.1.1.2.1	Label 221 137	Sig. Bits 12 12	Range ± 180 Degrees ± 180 Degrees	Signal Type Windshear Windshear	Resolution 0.0439453125 0.0439453125	Rate (ms) 50 - 100 45 - 110

Table 5.2.1.1-4: AOA/Flap Angle Data Select 4 (Simulators AA 727/DC-10s)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 DC Pot	(+) = J2-H01 (-) = J2-H03	6.3.1.1.1	Format: DC Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK
Flaps DC Pot	(+) = J2-J13 (-) = J2-J15	6.3.1.2.1	Format: DC Input Type: Windshear Fault Designation: Flap Angle

Table 5.2.1.1-5: AOA/Flap Angle Data Select 5 (Hawker 800/Safeflight)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1 (Safeflight)	(+) = J2-E4 (–) = J2-E5	6.3.1.1.3	Format: DC Pot (±10 Vdc) Trailing Edge Up = -9 Vdc = 45° Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Validity: AOA Valid Discrete #1 (+28V)
Flaps			Format: DC (28 Vdc Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
AOA Valid Discrete #1 (+28V)	J2-G01	Input	28v Disc 01	+28V = Valid 0V = Not Valid	
Flap Position Discrete #1 (+28V)	J2-B10	Input	28v Disc 07	+28V = Selected 0V = Not Selected	25°
Flap Position Discrete #2 (+28V)	J2-E12	Input	28v Disc 23	+28V = Selected 0V = Not Selected	45°

Table 5.2.1.1-6: AOA/Flap Angle Data Select 6 (Hawker 800/Teledyne))

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Teledyne)	(+) = J2-H01 (-) = J2-H03 Reference (+) = J2-E08 (-) = J2-E09 Excitation (+) = J2-G6 (-) = J2-G7	6.3.1.1.4	Format: DC Ratio Trailing Edge Up = 0.05 Vratio » 36° Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts
Flaps			Format: DC (28 Vdc Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Flap Position Discrete #1 (+28V)	J2-B10	Input	28v Disc 07	+28V = Selected 0V = Not Selected	25°
Flap Position Discrete #2 (+28V)	J2-E12	Input	28v Disc 23	+28V = Selected 0V = Not Selected	45°

Table 5.2.1.1-7: AOA/Flap Angle Data Select 7 (B747-100/200/300)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03 Reference Internal	6.3.1.1.12	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK 1 Validity: none
AOA Vane #2	(X) = J2-C02 (Y) = J2-C01 (Z) = J2-C03 Reference Internal	6.3.1.1.12	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK 2 Validity: none
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference (H) = J2-G14 (C) = J2-G15	6.3.1.2.6	Format: 5 Wire Synchro Input Type: Windshear Fault Designation: FLAP ANGLE 1

Table 5.2.1.1-8: AOA/Flap Angle Data Select 8 (Citation V/Ultra -Teledyne P/N SLZ 7306)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1 (Teledyne)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.6	Format: DC Ratio Scale: -19.4Deg=95%=4.75vdc 50.6Deg=5%=0.25vdc 90% or 4000 ohms = 70 Deg. 50% or 2000 ohms = 15.6Deg Range: +50.6 Degrees to -19.4 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts
Flaps	DC Vpot (+) = J2-J13 (–) = J2-J15 Vref (+) = J2-G14 (–) = J2-G15 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.2.4	Format: DC Ratio 0 Degrees = 13% Pot 7 Degrees = 32% Pot 15 Degrees = 49% Pot 35 Degrees = 78% Pot Vref. 5 Volts Input Type: Windshear Fault Designation: Flap Angle

Table 5.2.1.1-9 AOA/Flap Angle Data Select 9 (Citation V/Ultra - Safeflight C-11606-5, -6, -9)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1 (Safeflight)	DC (+) = J2-E4 (–) = J2-E5	6.3.1.1.22	Format: DC Pot (±10 Vdc) Trailing Edge Up = -9 Vdc = 41.8° Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Validity: AOA Valid Discrete #1 (+28V)
Flaps	DC Vpot (+) = J2-J13 (–) = J2-J15 Vref (+) = J2-G14 (–) = J2-G15 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.2.4	Format: DC Ratio 0 Degrees = 13% Pot 7 Degrees = 32% Pot 15 Degrees = 49% Pot 35 Degrees = 78% Pot Vref. 5 Volts Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
AOA Valid Discrete #1 (+28V)	J2-G01	Input	28v Disc 01	+28V = Valid 0V = Not Valid	

Table 5.2.1.1-10: AOA/Flap Angle Data Select 10 (Citation III/VI/VII -Teledyne P/N SLZ 7272-1)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Teledyne)	DC Vpot (+) = J2-H01 (-) = J2-H03 Vref. (+) = J2-E08 (-) = J2-E09	6.3.1.1.7	Format: DC Ratio (Vref 0.545 to 10.45 Vdc) Mech. Range: 70 Degrees (+59.1° to -10.9°) +59.1° =9.95Vdc Relative to Ground -10.9° = 1.04Vdc relative to Ground Vane Mid Range: 24.1°.= 5.49 Vdc Relative to Ground Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK 1
Flaps	Flap Angle (+) = J2-D6 (-) = J2-D7	6.3.1.2.5	Format: DC 0 Degrees = 2.0Vdc 7 Degrees = 3.4Vdc 20Degrees = 6.3Vdc 37 Degrees = 9.4Vdc Input Type: Windshear Fault Designation: Flap Angle

Table 5.2.1.1-11: AOA/Flap Angle Data Select 11 (Falcon 20F Teledyne SLZ-9386-1)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Teledyne)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.8	Format: DC Ratio Trailing Edge Up = 0.0 Volts DC Electrical Range: 44.44 Degrees Mechanical Range: 40 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts
Flaps			Format: DC (28 Vdc Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Flap Position Discrete #1 (+28V)	J2-B10	Input	28v Disc 07	+28V = Selected 0V(open) = Not Selected	25°
Flap Position Discrete #2 (+28V)	J2-E12	Input	28v Disc 23	+28V = Selected 0V(open) = Not Selected	40°

Table 5.2.1.1-12: AOA/Flap Angle Data Select 12 (Falcon 20F Conrac/Gulton 2551A-5AP)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Conrac/Gulton)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.9	Format: DC Ratio Trailing Edge Up = 0.9375 Volts DC Electrical Range: 80.0 Degrees Mechanical Range: 50.0 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts
Flaps			Format: DC (28 Vdc Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Flap Position Discrete #1 (+28V)	J2-B10	Input	28v Disc 07	+28V = Selected 0V(open) = Not Selected	25°
Flap Position Discrete #2 (+28V)	J2-E12	Input	28v Disc 23	+28V = Selected 0V(open) = Not Selected	40°

Table 5.2.1.1-13: AOA/Flap Angle Data Select 13 (Falcon 50 Teledyne SLZ-9164)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Teledyne)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.10	Format: DC Ratio Trailing Edge Up = 0.0 Volts DC Electrical Range: 55 Degrees Mechanical Range: 50 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts
Flaps			Format: DC (28 Vdc Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Flap Position Discrete #1 (+28V)	J2-B10	Input	28v Disc 07	+28V = Selected 0V(open) = Not Selected	20°
Flap Position Discrete #2 (+28V)	J2-E12	Input	28v Disc 23	+28V = Selected 0V(open) = Not Selected	48°

Table 5.2.1.1-14: AOA/Flap Angle Data Select 14 (Gulfstream G-II, G-IIB, G-III TeledyneSLZ-9692)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Teledyne)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.11	Format: DC Ratio Trailing Edge Up = 0.0 Volts DC Electrical Range: 60.0 Degrees Mechanical Range: 60.0 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts
Flaps			Format: DC (28 Vdc Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Flap Position Discrete #2 (+28V)	J2-E12	Input	28v Disc 23	+28V = Selected 0V(open) = Not Selected	39°

Table 5.2.1.1-15: AOA/Flap Angle Data Select 15 (Cessna Citation Bravo Safeflight C-12717-1)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Safeflight)	(+) = J2-E04 (–) = J2-E05	6.3.1.1.13	Format: DC Voltage (DC Pot +/-10vdc) Trailing Edge Up = 0.0 Volts DC Electrical Range: +/-40 Degrees Mechanical Range: 360 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK
Flaps **This flap input used for P/N –204-204 only.**	Flap Angle (+) = J2-D06 (–) = J2-D07	6.3.1.2.7	Format: DC 0 Degrees =1.5Vdc (+/- 0.5Vdc) 15 Degrees = 5.7Vdc (+/- 0.5Vdc) 40 Degrees = 10.8Vdc (+/- 1.0Vdc) Input Type: Windshear Fault Designation: FLAP ANGLE
Flaps **This flap input used for P/N –206-206 and on.**	DC Vpot (+) = J2-J13 (–) = J2-J15 Vref (+) = J2-G14 (–) = J2-G15 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.2.10	Format: DC Ratio 0 Degrees = 12.5% Pot 15 Degrees = 47.5% Pot 40 Degrees = 90% Pot Vref. 5 Volts Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
AOA Valid Discrete #1 (+28V)	J2-G01	Input	28v Disc 01	+28V = Valid 0V(open) = Not Valid	

Table 5.2.1.1-16: AOA/Flap Angle Data Select 16 (B737-200 ADV)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03 Reference Internal	6.3.1.1.14	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Validity: none
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference (H) = J2-G14 (C) = J2-G15	6.3.1.2.8	Format: 5 Wire Synchro Input Type: Windshear Fault Designation: FLAP ANGLE

Table 5.2.1.1-17: AOA/Flap Angle Data Select 17 (B727-100 with PLI)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03 Reference Internal	6.3.1.1.2	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Validity: none
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference (H) = J2-G14 (C) = J2-G15	6.3.1.2.2	Format: 5 Wire Synchro Input Type: Windshear Fault Designation: FLAP ANGLE
Shaker Margin #1	(X) = J2-C01 (Y) = J2-C02 (Z) = J2-C03 Reference Internal	6.3.1.3.1	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: STALL MARGIN
PLI Monitor #1	Internal	6.3.1.4.1	PLI End-Around Test monitor input Format: DC Input Type: Windshear Fault Designation: PLI OUTPUT MONITOR
PLI Monitor #2	Internal	6.3.1.4.1	PLI End-Around Test monitor input Format: DC Input Type: Windshear Fault Designation: PLI OUTPUT MONITOR
PLI Output #1	(+) = J1A-6 (-) = J1B-6	7.6.1	Format: DC Analog
PLI Output #2	(+) = J1A-7 (-) = J1B-6	7.6.1	Format: DC Analog

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
PLI Deselect Switch #1 (Gnd)	J1B-25	Input	Gnd Disc 31	Gnd = Deselect Open = Not deselect	momentary
PLI Deselect Switch #2 (Gnd)	J1B-15	Input	Gnd Disc 15	Gnd = Deselect Open = Not deselect	momentary

Table 5.2.1.1-18: AOA/Flap Angle Data Select 18 (B747-100/200 with PLI)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03 Reference Internal	6.3.1.1.12	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Validity: none
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference (H) = J2-G14 (C) = J2-G15	6.3.1.2.6	Format: 5 Wire Synchro Input Type: Windshear Fault Designation: FLAP ANGLE
Shaker Margin #1	(X) = J2-C01 (Y) = J2-C02 (Z) = J2-C03 Reference Internal	6.3.1.3.1	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: STALL MARGIN
PLI Monitor #1	Internal	6.3.1.4.1	PLI End-Around Test monitor input Format: DC Input Type: Windshear Fault Designation: PLI OUTPUT MONITOR
PLI Monitor #2	Internal	6.3.1.4.1	PLI End-Around Test monitor input Format: DC Input Type: Windshear Fault Designation: PLI OUTPUT MONITOR
PLI Output #1	(+) = J1A-6 (-) = J1B-6	7.6.1	Format: DC Analog
PLI Output #2	(+) = J1A-7 (-) = J1B-6	7.6.1	Format: DC Analog

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
PLI Deselect Switch #1 (Gnd)	J1B-25	Input	Gnd Disc 31	Gnd = Deselect Open = Not deselect	momentary
PLI Deselect Switch #2 (Gnd)	J1B-15	Input	Gnd Disc 15	Gnd = Deselect Open = Not deselect	momentary

Table 5.2.1.1-19: AOA/Flap Angle Data Select 19 (DC-8-71/73with PLI)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1	DC Vpot (+) = J2-H01 (-) = J2-H03 Vref (+) = J2-E08 (-) = J2-E09 Excitation (+) = J2-G6 (-) = J2-G7	6.3.1.1.15	Format: DC Ratio Trailing Edge Up = 4.25 VDC Electrical Range: -40º to +60º Mechanical Range: -35º to +55º Input type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref = 5 VDC
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference Internal	6.3.1.2.9	Format: DC Selsyn Input Type: Windshear Fault Designation: FLAP ANGLE
Flap Position Xducer #2	(X) = J2-D02 (Y) = J2-D01 (Z) = J2-D03 Reference Internal	6.3.1.2.9	Format: DC Selsyn Input Type: Windshear Fault Designation: FLAP ANGLE
Computed Stick Shaker Margin	Computed Internally		Input Type: Windshear Fault Designation: COMPUTED STALL MARGIN
PLI Monitor #1	Internal	6.3.1.4.1	PLI End-Around Test monitor input Format: DC Input Type: Windshear Fault Designation: PLI OUTPUT MONITOR
PLI Monitor #2	Internal	6.3.1.4.1	PLI End-Around Test monitor input Format: DC Input Type: Windshear Fault Designation: PLI OUTPUT MONITOR
PLI Output #1	(+) = J1A-6 (-) = J1B-6	7.6.1	Format: Analog DC
PLI Output #2	(+) = J1A-7 (-) = J1B-6	7.6.1	Format: Analog DC

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	POLARITY/ CONFIGURATION	SUMMARY DATA
AOA Vane Heater (Gnd)	J2-E11	Input	Gnd Disc 07	Gnd = On Open = Off	
PLI Deselect Switch #1 (Gnd)	J1B-25	Input	Gnd Disc 31	Gnd = Deselect Open = Not deselect	momentary
PLI Deselect Switch #2 (Gnd)	J1B-15	Input	Gnd Disc 15	Gnd = Deselect Open = Not deselect	momentary

Table 5.2.1.1-20: AOA/Flap Angle Data Select 20 (Lear 55 Conrac/Gulton)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Conrac/Gulton)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.19	Format: DC Ratio Trailing Edge Up = 0.0 Volts DC Electrical Range: 60.0 Degrees Mechanical Range: 60.0 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts
Flaps			Format: DC (GND Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data (See Note 1)
Flap Position Discrete #3 (GND)	J1B-15	Input	Gnd Disc 15	Gnd = Not Selected 0V(open) = Selected	grounded when flaps < 13
Flap Position Discrete #4 (GND)	J2-E11	Input	Gnd Disc 7	Gnd = Not Selected 0V(open) = Selected	grounded when flaps < 25

Note 1: The Flap position discretes are interpreted as follows:

FLAP POSITION #3 Grounded when <13 degrees	FLAP POSITION #4 Grounded when <25 degrees	Degrees
Grounded	Grounded	0
Grounded	Open	Invalid
Open	Grounded	20
Open	Open	40

Table 5.2.1.1-21: AOA/Flap Angle Data Select 21 (Lear 35 60° Conrac/Gulton)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Conrac/Gulton)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.20	Format: DC Ratio Trailing Edge Up = 0.0 Volts DC Electrical Range: 60.0 Degrees Mechanical Range: 60.0 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts NOTE: Requires 60 degree range pot.
Flaps			Format: DC (GND Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data (See Note 1)
Flap Position Discrete #3 (GND)	J1B-15	Input	Gnd Disc 15	Gnd = Not Selected 0V(open) = Selected	grounded when flaps < 13
Flap Position Discrete #4 (GND)	J2-E11	Input	Gnd Disc 7	Gnd = Not Selected 0V(open) = Selected	grounded when flaps < 25

Note 1: The Flap position discretes are interpreted as follows:

FLAP POSITION #3 Grounded when <13 degrees	FLAP POSITION #4 Grounded when <25 degrees	Degrees
Grounded	Grounded	0
Grounded	Open	Invalid
Open	Grounded	20
Open	Open	40

Table 5.2.1.1-22: AOA/Flap Angle Data Select 22 (Canadair CL600/601 Rosemount 861CAL501FC4)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Rosemount)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.16	Format: DC Ratio Trailing Edge Up = 0.0 Volts DC, Trailing Edge Down = 5 Volts DC Electrical Range: 55 Degrees Mechanical Range: 50 +/- 2 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts
Flaps			Format: DC (28 Vdc Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Flap Position Discrete #1 (+28V)	J2-B10	Input	28v Disc 07	+28V = Selected 0V(open) = Not Selected	30°
Flap Position Discrete #2 (+28V)	J2-E12	Input	28v Disc 23	+28V = Selected 0V(open) = Not Selected	45°

Table 5.2.1.1-23: AOA/Flap Angle Data Select 23 (Beechjet 400 Teledyne SLZ-7275-1)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Teledyne)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.17	Format: DC Ratio Trailing Edge Up = 0.25 Volts DC, Trailing Edge Down = 4.75 Volts DC Electrical Range: 77.7 Degrees Mechanical Range: 70 Degrees +50.0° = 0.25 Vdc Relative to Ground -20.0° = 4.75 Vdc Relative to Ground Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts
Flaps			Format: DC (28 Vdc Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Flap Position Discrete #1 (+28V)	J2-B10	Input	28v Disc 07	+28V = Selected 0V(open) = Not Selected	10°
Flap Position Discrete #2 (+28V)	J2-E12	Input	28v Disc 23	+28V = Selected 0V(open) = Not Selected	20°
Flap Position Discrete #3 (+28V)	J2-G01	Input	28v Disc 01	+28V = Selected 0V(open) = Not Selected	30°

Table 5.2.1.1-24: AOA/Flap Angle Data Select 10 (Lear 31A - Conrac/Gulton)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Conrac/Gulton)	DC Vpot (+) = J2-H01 (-) = J2-H03 Vref. (+) = J2-E08 (-) = J2-E09	6.3.1.1.18	Format: DC Ratio (Vref 5Vdc to 15 Vdc) Trailing Edge Up = 5 Volts DC, Trailing Edge Down = 15 Volts DC Electrical Range: 60 Degrees (+49° to -11°) Mech. Range: 60 Degrees (+49° to -11°) Vane Mid Range: 19°.= 10 Vdc Relative 5 Vdc Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK
Flaps			Format: DC (GND Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data (See Note 1)
Flap Position Discrete #3 (GND)	J1B-15	Input	Gnd Disc 15	Gnd = Not Selected 0V(open) = Selected	grounded when flaps < 13
Flap Position Discrete #4 (GND)	J2-E11	Input	Gnd Disc 7	Gnd = Not Selected 0V(open) = Selected	grounded when flaps < 25

Note 1: The Flap position discretes are interpreted as follows:

FLAP POSITION #3 Grounded when <13 degrees	FLAP POSITION #4 Grounded when <25 degrees	Degrees
Grounded	Grounded	0
Grounded	Open	Invalid
Open	Grounded	20
Open	Open	40

Table 5.2.1.1-25: AOA/Flap Angle Data Select 25 (Lear 35 50° Conrac/Gulton)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Conrac/Gulton)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.21	Format: DC Ratio Trailing Edge Up = 0.0 Volts DC Electrical Range: 50.0 Degrees Mechanical Range: 50.0 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts NOTE: Requires 50 degree range pot.
Flaps			Format: DC (GND Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data (See Note 1)
Flap Position Discrete #3 (GND)	J1B-15	Input	Gnd Disc 15	Gnd = Not Selected 0V(open) = Selected	grounded when flaps < 13
Flap Position Discrete #4 (GND)	J2-E11	Input	Gnd Disc 7	Gnd = Not Selected 0V(open) = Selected	grounded when flaps < 25

Note 1: The Flap position discretes are interpreted as follows:

FLAP POSITION #3 Grounded when <13 degrees	FLAP POSITION #4 Grounded when <25 degrees	Degrees
Grounded	Grounded	0
Grounded	Open	Invalid
Open	Grounded	20
Open	Open	40

Table 5.2.1.1-26: AOA/Flap Angle Data Select 26 (DC-9-30, 32 & C-9A, C Conrac/Teledyne)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Conrac/Teledyne)	DC Vpot (+) = J2-H01 (–) = J2-H03	6.3.1.1.26	Format: DC Absolute Trailing Edge Up = 1.2 Volts DC Electrical Range: 60.0 Degrees Mechanical Range: 60.0 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK NOTE: Requires 60 degree range pot.
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference: (See note) (H) = J2-G15 (C) = J2-G14	6.3.1.2.13	Format: 5 Wire Synchro Input Type: Windshear Fault Designation: FLAP ANGLE

Note: The reference's polarity is reversed because the flap position synchro rotates in the opposite direction from normal.

Table 5.2.1.1-27: AOA/Flap Angle Data Select 27 (ASTRA SP Teledyne SLZ-7278)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA		
AOA #1 (Teledyne)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.24	Format: DC Ratio Trailing Edge Up = 0.0 Volts DC Electrical Range: 77.77 Degrees Mechanical Range: 70 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts		
Flaps			Format: DC (28 Vdc Discrete) Input Type: Windshear Fault Designation: Flap Angle		
PIN FUNCTION	**CONNECTION**	**PIN TYPE**	**CHANNEL DESIGNATION REFERENCE**	**Polarity/Configuration**	**Summary Data**
Flap Position Discrete #1 (+28V)	J2-B10	Input	28v Disc 07	+28V = Selected 0V(open) = Not Selected	20°
Flap Position Discrete #2 (+28V)	J2-E12	Input	28v Disc 23	+28V = Selected 0V(open) = Not Selected	40°
Flap Position Discrete #3 (+28V)	J2-G01	Input	28v Disc 01	+28V = Selected 0V(open) = Not Selected	12°

Table 5.2.1.1-28: AOA/Flap Angle Data Select 28 (Westwind II Teledyne SLZ-7259)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Teledyne)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.25	Format: DC Ratio Trailing Edge Up = 0.0 Volts DC Electrical Range: 44.44 Degrees Mechanical Range: 40 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts
Flaps			Format: DC (28 Vdc Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Flap Position Discrete #1 (+28V)	J2-B10	Input	28v Disc 07	+28V = Selected 0V(open) = Not Selected	20°
Flap Position Discrete #2 (+28V)	J2-E12	Input	28v Disc 23	+28V = Selected 0V(open) = Not Selected	40°
Flap Position Discrete #3 (+28V)	J2-G01	Input	28v Disc 01	+28V = Selected 0V(open) = Not Selected	12°

Table 5.2.1.1-29: AOA/Flap Angle Data Select 29 (C-141)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03 Reference Internal	6.3.1.1.23	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK 1 Validity: None
AOA Vane #2	(X) = J2-C02 (Y) = J2-C01 (Z) = J2-C03 Reference Internal	6.3.1.1.23	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK 2 Validity: None
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference (H) = J2-G14 (C) = J2-G15	6.3.1.2.12	Format: 5 Wire Synchro Input Type: Windshear Fault Designation: FLAP ANGLE

Table 5.2.1.1-30: AOA/Flap Angle Data Select 30 (Simulators with PLI)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 DC Pot	(+) = J2-H01 (-) = J2-H03	6.3.1.1.1	Format: DC Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK
Flaps DC Pot	(+) = J2-J13 (-) = J2-J15	6.3.1.2.1	Format: DC Input Type: Windshear Fault Designation: FLAP ANGLE
Shaker Margin DC	(+) = J2-J01 (-) = J2-J03	6.3.1.3.2	Format: DC Input Type: Windshear Fault Designation: STALL MARGIN
PLI Monitor #1	Internal	6.3.1.4.1	PLI End-Around Test monitor input Format: DC Input Type: Windshear Fault Designation: PLI OUTPUT MONITOR
PLI Monitor #2	Internal	6.3.1.4.1	PLI End-Around Test monitor input Format: DC Input Type: Windshear Fault Designation: PLI OUTPUT MONITOR
PLI Output #1	(+) = J1A-6 (-) = J1B-6	7.6.1	Format: Analog DC
PLI Output #2	(+) = J1A-7 (-) = J1B-6	7.6.1	Format: Analog DC

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
PLI Deselect Switch #1 (Gnd)	J1B-25	Input	Gnd Disc 31	Gnd = Deselect Open = Not deselect	Momentary
PLI Deselect Switch #2 (Gnd)	J1B-15	Input	Gnd Disc 15	Gnd = Deselect Open = Not deselect	Momentary

Table 5.2.1.1-31: AOA/Flap Angle Data Select 31 (Falcon 10/100 Teledyne SLZ-9164)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Teledyne)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.10	Format: DC Ratio Trailing Edge Up = 0.0 Volts DC Electrical Range: 55 Degrees Mechanical Range: +/-50 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts Note 1: This configuration uses the Falcon 50 AOA Scaling. The Falcon 50 and Falcon 10/100 both use the Teledyne SLZ-9164 but the offset of the vane in the Falcon 10/100 installation is not known. The body AOA scaling factors for the Falcon 10/100 were determined from flight test data and compensate for any vane offset difference. Note 2: This configuration only applies to OEM installations of the SLZ9164 on the F/O side of the aircraft.
Flaps			Format: DC (28 Vdc Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Flap Position Discrete #1 (+28V)	J2-B10	Input	28v Disc 07	+28V = Selected 0V(open) = Not Selected	15°
Flap Position Discrete #2 (+28V)	J2-E12	Input	28v Disc 23	+28V = Selected 0V(open) = Not Selected	30°
Flap Position Discrete #3 (+28V)	J2-G01	Input	28v Disc 01	+28V = Selected 0V(open) = Not Selected	52°

Table 5.2.1.1-32: AOA/Flap Angle Data Select 32 (C-130)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference Internal	6.3.1.2.11	Format: DC Selsyn Input Type: Basic Fault Designation: FLAP ANGLE

Table 5.2.1.1-33: AOA/Flap Angle Data Select 33 (L1011)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03 Reference Internal	6.3.1.1.27	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Validity: none
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference: (H) = J2-G14 (C) = J2-G15	6.3.1.2.14	Format: 5 Wire Synchro Input Type: Windshear Fault Designation: FLAP ANGLE

Table 5.2.1.1-34: AOA/Flap Angle Data Select 34 (A300)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03 Reference Internal	6.3.1.1.28	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK 1 Validity: AOA Valid Discrete #1 (+28V)
AOA Vane #2	(X) = J2-C02 (Y) = J2-C01 (Z) = J2-C03 Reference Internal	6.3.1.1.28	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK 2 Validity: AOA Valid Discrete #2 (+28V)
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference: (H) = J2-G14 (C) = J2-G15	6.3.1.2.15	Format: 5 Wire Synchro Input Type: Windshear Fault Designation: FLAP ANGLE

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
AOA Valid Discrete #1 (+28V)	J2-G01	Input	28v Disc 01	+28V = Valid 0V = Not Valid	
AOA Valid Discrete #2 (+28V)	J2-E12	Input	28v Disc 23	+28V = Valid 0V = Not Valid	

Table 5.2.1.1-35: AOA/Flap Angle Data Select 35 (747 SP)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03 Reference Internal	6.3.1.1.29	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK 1
AOA Vane #2	(X) = J2-C02 (Y) = J2-C01 (Z) = J2-C03 Reference Internal	6.3.1.1.29	Format: 3 Wire Synchro Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK 2
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference: (H) = J2-G14 (C) = J2-G15	6.3.1.2.16	Format: 5 Wire Synchro Input Type: Windshear Fault Designation: FLAP ANGLE 1

TABLE 5.2.1.1-36: AOA/FLAP ANGLE DATA SELECT 36 (DC 9-10)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1	DC Vpot (+) = J2-H01 (-) = J2-H03 Vref (+) = J2-E08 (-) = J2-E09 Excitation (+) = J2-G6 (-) = J2-G7	6.3.1.1.15	Format: DC Ratio Trailing Edge Up = 4.25 VDC Electrical Range: -40º to +60º Mechanical Range: -35º to +55º Input type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref = 5 VDC
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference: (See note) (+) = J2-G15 (–) = J2-G14	6.3.1.2.17	Format: 5 Wire Synchro Input Type: Windshear Fault Designation: FLAP ANGLE

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	POLARITY/ CONFIGURATION	SUMMARY DATA
AOA Vane Heater (Gnd)	J2-E11	Input	Gnd Disc 07	Gnd = On Open = Off	

Note: The reference's polarity is reversed because the flap position synchro rotates in the opposite direction from normal.

TABLE 5.2.1.1-37: CURRENTLY UNUSED

Table 5.2.1.1-38: AOA/Flap Angle Data Select 38 (DC-8 ALL)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1	DC Vpot (+) = J2-H01 (-) = J2-H03 Vref (+) = J2-E08 (-) = J2-E09 Excitation (+) = J2-G6 (-) = J2-G7	6.3.1.1.15	Format: DC Ratio Trailing Edge Up = 4.25 VDC Electrical Range: -40º to +60º Mechanical Range: -35º to +55º Input type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref = 5 VDC
Flap Position Xducer #1	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15 Reference Internal	6.3.1.2.9	Format: DC Selsyn Input Type: Windshear Fault Designation: FLAP ANGLE 1
Flap Position Xducer #2	(X) = J2-D02 (Y) = J2-D01 (Z) = J2-D03 Reference Internal	6.3.1.2.9	Format: DC Selsyn Input Type: Windshear Fault Designation: FLAP ANGLE 2

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	POLARITY/ CONFIGURATION	SUMMARY DATA
AOA Vane Heater (Gnd)	J2-E11	Input	Gnd Disc 07	Gnd = On Open = Off	

Table 5.2.1.1-40: AOA/Flap Angle Data Select 40 (C-2A)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Engine Power #1	DC Vpot (+) = J2-G12 (–) = J2-G13	6.3.1.5.1	Format: DC Absolute Input Type: Basic Fault Designation: ENGINE SENSOR 1
Engine Power #2	DC Vpot (+) = J2-H10 (–) = J2-H11	6.3.1.5.1	Format: DC Absolute Input Type: Basic Fault Designation: ENGINE SENSOR 2

Table 5.2.1.1-41: AOA/Flap Angle Data Select 41 (Citation Encore Safeflight C-12717-1)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Safeflight)	(+) = J2-E04 (–) = J2-E05	6.3.1.1.13	Format: DC Voltage (DC Pot +/-10vdc) Trailing Edge Up = 0.0 Volts DC Electrical Range: +/-40 Degrees Mechanical Range: 360 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK
Flaps	DC Vpot (+) = J2-J13 (–) = J2-J15 Vref (+) = J2-G14 (–) = J2-G15 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.2.4	Format: DC Ratio 0 Degrees = 13% Pot 7 Degrees = 32% Pot 15 Degrees = 49% Pot 35 Degrees = 78% Pot Vref. 5 Volts Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
AOA Valid Discrete #1 (+28V)	J2-G01	Input	28v Disc 01	+28V = Valid 0V = Not Valid	

Table 5.2.1.1-42: AOA/Flap Angle Data Select 42 (Falcon 200 Teledyne SLZ-9164)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Teledyne)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.10	Format: DC Ratio Trailing Edge Up = 0.0 Volts DC Electrical Range: 55 Degrees Mechanical Range: 50 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts
Flaps			Format: DC (28 Vdc Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Flap Position Discrete #1 (+28V)	J2-B10	Input	28v Disc 07	+28V = Selected 0V(open) = Not Selected	15°
Flap Position Discrete #2 (+28V)	J2-E12	Input	28v Disc 23	+28V = Selected 0V(open) = Not Selected	40°

Table 5.2.1.1-43: AOA/Flap Angle Data Select 43 (Citation II/550 -Teledyne SLZ-9386-1)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA Vane #1 (Teledyne)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.8	Format: DC Ratio Trailing Edge Up = 0.0 Volts DC Electrical Range: 44.44 Degrees Mechanical Range: 40 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts
Flaps	DC Vpot (+) = J2-J13 (–) = J2-J15 Vref (+) = J2-G14 (–) = J2-G15 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.2.18	Format: DC Ratio 0 Degrees = 35% Pot 15 Degrees = 51% Pot 40 Degrees = 67% Pot Vref. 5 Volts Input Type: Windshear Fault Designation: Flap Angle

Table 5.2.1.1-44: AOA/Flap Angle Data Select 44 (Jetstar II Teledyne SLZ-9386-1)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
AOA #1 (Teledyne)	DC Vpot (+) = J2-H01 (–) = J2-H03 Vref (+) = J2-E08 (–) = J2-E09 Excitation (+) = J2-G6 (–) = J2-G7	6.3.1.1.8	Format: DC Ratio Trailing Edge Up = 0.0 Volts DC Electrical Range: 44.44 Degrees Mechanical Range: 40 Degrees Input Type: Windshear Fault Designation: INDICATED ANGLE OF ATTACK Vref. 5 Volts
Flaps			Format: DC (Ground Discrete) Input Type: Windshear Fault Designation: Flap Angle

PIN FUNCTION	CONNECTION (Note 1)	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Flap Position Discrete #1 (GND)	J1-B15	Input	Gnd Disc 15	GND = Selected Open = Not Selected	20°
Flap Position Discrete #2 (GND)	J2-E11	Input	Gnd Disc 07	GND = Selected Open = Not Selected	48°

Note 1: Pin J1B-15 is typically identified as Flap Position Discrete #3. This input is identified as Flap Position #1 to accommodate pre-existing wiring in the initial aircraft installation. Pin J2-E11 is typically identified as Flap Position Discrete #4. This input is identified as Flap Position #2 to accommodate pre-existing wiring in the initial aircraft installation.

5.2.2 Category 2, Radio Altitude Input Select (Ppin 14)

Document Revision History, Section 5.2.2

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/12/97 - A Loos	Table 5.2.2-3	Move validity connection to CONNECTION column	202	202
11/17/97 - A Loos	Tables 5.2.2-0,-1, and -3	Clarified validity connection and states, add DH discrete.	202	202
11/20/97 - A Loos	All	Add words to describe scope of category. Add effectivity to table 5.2.2	202	202
12/19/97 - A. Loos	Table 5.2.2-2	Removed redundant "**: Basic"** bus type	202	202
2/26/98 – B. Breen	Table 5.2.2 Table 5.2.2-4	Added new analog triple mix type	204	204
05/01/98 - S. Gagnon	Table 5.2.2	Added New revised table, added note to definition.	204	204
07/14/98 – N Paterson	Table 5.2.2 Table 5.2.2-5	SCR 2866 Added ID5 to Table 5.2.2 and added Table 5.2.2-5	206	206
8/31/98 – N Paterson	Table 5.2.2-5	SCR 2866 Corrected Table 5.2.2-5 Bus 1 and 2 type to Basic and DH signal types to Basic.	206	206
07/DEC/98 – A Loos	Table 5.2.2-6	SCR 3372: Add interface definition of APN-171/232 Radar Altimeter	208	208
16/DEC/98 – D. Sawich	Table 5.2.2	SCR 3404: Added Note to identify the validity conflict between the Triple Radio Alt. and Air Data configuration #18.		208
7/JAN/99 – A. Anderson	Table 5.2.2 Table 5.2.2-7	SCR 3424: Added ID 7 to Table 5.2.2 and added Table 5.2.2-7.	208	208
19/JAN/99 – L.Caldeira	Table 5.2.2-x	SCR 3437: Added Out of Track configurables for pseudo altitude for all categories with analog RA.	-208	-208
29/APR/99 – A Loos	Tables 5.2.2 and 5.2.2-8	SCR 3832: Add new ID for single channel LPIA-194 Radio Altimeter	future	future
04-MAY-99 – A Loos	Table 5.2.2	SCR 3832: Change effetivity to "210", from "future"	210	210
24-Sep-99 – A Loos	ALL	SCR: 4334: Correct format errors.	-	-
26-MAY-00 – M. Henderson	Table 5.2.2	SCR 4942: General document cleanup.	-	-
23-JAN-01 – Gary Boyd	5.2.2-5	SCR 5746: Changed "CONNECT TO" from WX-IND to EFIS.	-	-
26-JUN-01 – Kevin Jones	5.2.2-0,1,2,3,4,6,8	SCR 5960: Added config. Item for "unconfigured DH"	214	214
23-AUG-01 – Kevin Jones	5.2.2-0,1,2,3,4,5, 6,7,8	SCR 5960: Changed "unconfigured DH" value fields to Bools.	214	214
06-SEP-01 – R. Smith	Table 5.2.2	SCR 4929: Added ID 9 as "Invalid" to allow proper fault annunciation if this unassigned state is erroneously selected.	214	214
19-NOV-01 – M. Calhoun	Table 5.2.2	SCR 6535: Expanded notes for IDs 4,5 and 7.	-	-
27-NOV-01 – N Paterson	All	SCR 6053: General cleanup		
28-NOV-01 – N Paterson	Table 5.2.2	SCR 6525: Added Traceability		
07-APR-04 – Gill	Table 5.2.2, Table 5.2.2-7	SCR 7947: Document Only change. Expanded Note 4 in Table 5.2.2 and revised note for Table 5.2.2-7	-	-
10-MAR-06 – M. Calhoun	Table 5.2.2	SCR 8201: Made corrections to note 4 below table 5.2.2.	-	-
25-MAY-06 – A. Lowe	Table 5.2.2 New Table 5.2.2-9	SCR 8686: Added new ID 9 and Note 5 to Table 5.2.2. Added new table 5.2.2-9.	226	226
01-JUN-06 – A. Lowe	Table 5.2.2 Table 5.2.2-9	SCR 8686: Updated Table 5.2.2, Note 5 to include 'Terrain Display Type 46' and category 6. Updated Table 5.2.2-9 to include 'Format: ARINC 429'.	226	226

The following table provides identification of the Radio Altitude source type. Each entry in the ID Type column has a corresponding table that provides detailed information on the configuration. For example, the details for ID #0 are found in Table 5.2.2-0.

In this category only the following signals are to be defined:

- Radio Altitude, with analog or ARINC 429 format, and associated validity.
- Decision Height, discrete or ARINC 429 format.

In cases where the above signals are on an ARINC 429 bus with other signals, you may:

- In the other categories select the same bus with the **same Fault Designation name and Channel** connection as this category. In this case a single physical bus with a single connection satisfies more than one category, or;
- In the other categories select a **different bus Fault Designation name and Channel** connection and wire the connections to the same source (if loading permits). Note: In this case a single physical bus failure will result in multiple bus names being faulted in the MK VII EGPWS Self Test. In this case a single physical bus with multiple connections satisfies more than one category.

Table 5.2.2: Radio Altitude Input Select (Ppin 14)

ID	PP 14 State (J1A-32)	Radio Altitude Type (Table 5.2.2-x)	Description	Effectivity	
				App.	Cfg.
0	1	0	Single Analog ARINC 552 Rad-Alt	202	202
1	2	1	Dual Analog ARINC 552 Rad-Alt	202	202
2	3	2 **(Note-1)**	Single Digital Rad-Alt	202	202
3	4	3	Single Analog ALT-55 Rad-Alt	202	202
4	5	4 **(Note-2)**	Triple Analog ARINC 552 Rad-Alt	204	204
5	6	5 **(Note-3)**	Single Analog ARINC 552 Rad-Alt with Digital DH/MDA	206	206
6	7	6	Single Analog CARA/APN-171	208	208
7	8	7 **(Note-4)**	Dual Analog ARINC 552 Rad-Alt with Dual Digital DH (ISDAS).	208	208
8	9	8	Single Channel LPIA-194	210	210
9	10	9 **(Note -5)**	Dual Digital ARINC 429 Rad-Alt via dual Collins IOC Buses	226	226

Note-1: If selected, can not use IRS input, (Channel RX429-4).

Note-2: This configuration can not be used with Air Data Configuration #18. There is a conflict between the SAT validity and the Radio Altimeter #3 validity. In addition, it can not be used with Aircraft Types (Category 1) that use the 28VDC Flap Position Discrete #1 on pin J2-B10.

Note-3: Intended for use with Terrain Display Type 14 using Display Input Control Group 8 (5.2.7.2).

Note-4: Intended for use with Terrain Display Type 24 using Display Input Control Group 11 (5.2.7.2).
This configuration can not be used with the following:

1) **Category 3 Air Data ID's 2, 3, 12, 14, 15, 22, 23, 26, 28 (there is a conflict between the ARINC 429 channel definitions).**
2) **Category 5 Navigation ID's 1, 5, 6, 10, 26, 30, 31, 35 (there is a conflict between the ARINC 429 channel definitions).**
3) **Category 6 Position ID's 18, 25, 29, 46, 47, 72, 73, 80, 81, 84, 86, 92, 93, 95, 96, 97 (there is a conflict between the ARINC 429 channel definitions).**

Note-5: Intended for use with Terrain Display Type 45 and 46 (ProLine 21) and dual IOC buses in Categories 3, 4, 5, 6.

Table 5.2.2-0: Radio Altitude Input Select Type 0

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA		
Radio Altimeter #1	(+) = J1B-20 (-) = J1B-21	6.3.2.1	Format: ARINC 552 with Validity Flag Input Type: Basic Fault Designation: RADIO ALTIMETER Validity: Radio Altitude Valid Discrete #1 (+28V)		
PIN FUNCTION	**CONNECTION**	**PIN TYPE**	**CHANNEL DESIGNATION REFERENCE**	**Polarity/Configuration**	**Summary Data**
Radio Altitude Valid Discrete #1 (+28V)	J1B-19	Input	28v Disc 18	+28V = Valid 0V = Not Valid	
DH Discrete (Gnd)	J1A-25	Input	Gnd Disc 13	Gnd = < DH Open = > DH	

Configuration Data	Value	Reference Section
Out of Track Maximum	2800	SRD section 5.1.9
Out of Track Minimum	-20	SRD section 5.1.9
Unconfigured DH	True	SRD sections 6.4.R70; 6.10.6.2.R210

Table 5.2.2-1: Radio Altitude Input Select Type 1

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA		
Radio Altimeter #1	(+) = J1B-20 (-) = J1B-21	6.3.2.1	Format: ARINC 552 with Validity Flag Input Type: Basic Fault Designation: RADIO ALTIMETER 1 Validity: Radio Altitude Valid Discrete #1 (+28V)		
Radio Altimeter #2	(+) = J2-F08 (-) = J2-F09	6.3.2.1	Format: ARINC 552 with Validity Flag Input Type: Basic Fault Designation: RADIO ALTIMETER 2 Validity: Radio Altitude Valid Discrete #2 (+28V)		
PIN FUNCTION	**CONNECTION**	**PIN TYPE**	**CHANNEL DESIGNATION REFERENCE**	**Polarity/Configuration**	**Summary Data**
Radio Altitude Valid Discrete #1 (+28V)	J1B-19	Input	28v Disc 18	+28V = Valid 0V = Not Valid	
Radio Altitude Valid Discrete #2 (+28V)	J1A-04	Input	28v Disc 13	+28V = Valid 0V = Not Valid	
DH Discrete (Gnd)	J1A-25	Input	Gnd Disc 13	Gnd = < DH Open = > DH	

Configuration Data	Value	Reference Section
Out of Track Maximum	2800	SRD section 5.1.9
Out of Track Minimum	-20	SRD section 5.1.9
Unconfigured DH	True	SRD sections 6.4.R70; 6.10.6.2.R210

Table 5.2.2-2: Radio Altitude Input Select Type 2

CHANNEL RX429-4	**CONNECT TO: Left (#1) LRRA (Low Speed)**		**Fault Designation: LEFT RADIO ALTIMETER BUS Bus Type: Basic**					
A = J1A-11 B = J1A-12	Data Radio Altitude	Reference 6.1.2.1	Label 164	Sig. Bits 16	Range ± 8192 FT	Signal Type Basic	Resolution 0.125	Rate (ms) 25 to 50

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
DH Discrete (Gnd)	J1A-25	Input	Gnd Disc 13	Gnd = < DH Open = > DH	

Configuration Data	Value	Reference Section
Unconfigured DH	True	SRD sections 6.4.R70; 6.10.6.2.R210

Table 5.2.2-3: Radio Altitude Input Select Type 3

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA		
Radio Altimeter #1	(+) = J1B-20 (-) = J1B-21	6.3.2.2	Format: Alt 55 with Validity Flag Input Type: Basic Fault Designation: RADIO ALTIMETER Validity: Radio Altitude Valid Discrete #1 (+28V)		
PIN FUNCTION	**CONNECTION**	**PIN TYPE**	**CHANNEL DESIGNATION REFERENCE**	**Polarity/Configuration**	**Summary Data**
Radio Altitude Valid Discrete #1 (+28V)	J1B-19	Input	28v Disc 18	+28V = Valid 0V = Not Valid	
DH Discrete (Gnd)	J1A-25	Input	Gnd Disc 13	Gnd = < DH Open = > DH	

Configuration Data	Value	Reference Section
Out of Track Maximum	2800	SRD section 5.1.9
Out of Track Minimum	-20	SRD section 5.1.9
Unconfigured DH	True	SRD sections 6.4.R70; 6.10.6.2.R210

Table 5.2.2-4: Radio Altitude Input Select Type 4

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA		
Radio Altimeter #1	(+) = J1B-20 (-) = J1B-21	6.3.2.1	Format: ARINC 552 with Validity Flag Input Type: Basic Fault Designation: RADIO ALTIMETER 1 Validity: Radio Altitude Valid Discrete #1 (+28V)		
Radio Altimeter #2	(+) = J2-F08 (-) = J2-F09	6.3.2.1	Format: ARINC 552 with Validity Flag Input Type: Basic Fault Designation: RADIO ALTIMETER 2 Validity: Radio Altitude Valid Discrete #2 (+28V)		
Radio Altimeter #3	(+) = J2-B11 (-) = J2-B12	6.3.2.1	Format: ARINC 552 with Validity Flag Input Type: Basic Fault Designation: RADIO ALTIMETER 3 Validity: Radio Altitude Valid Discrete #3 (+28V)		
PIN FUNCTION	**CONNECTION**	**PIN TYPE**	**CHANNEL DESIGNATION REFERENCE**	**Polarity/Configuration**	**Summary Data**
Radio Altitude Valid Discrete #1 (+28V)	J1B-19	Input	28v Disc 18	+28V = Valid 0V = Not Valid	
Radio Altitude Valid Discrete #2 (+28V)	J1A-04	Input	28v Disc 13	+28V = Valid 0V = Not Valid	
Radio Altitude Valid Discrete #3 (+28V)	J2-B10	Input	28v Disc 07	+28V = Valid 0V = Not Valid	
DH Discrete (Gnd)	J1A-25	Input	Gnd Disc 13	Gnd = < DH Open = > DH	

Configuration Data	Value	Reference Section
Out of Track Maximum	2800	SRD section 5.1.9
Out of Track Minimum	-20	SRD section 5.1.9
Unconfigured DH	True	SRD sections 6.4.R70; 6.10.6.2.R210

Table 5.2.2-5: Radio Altitude Input Select Type 5

Note: Intended for use with Terrain Display Type 14 using Display Input Control Group 8 (5.2.7.2).

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA					
Radio Altimeter #1	(+) = J1B-20 (-) = J1B-21	6.3.2.1	Format: ARINC 552 with Validity Flag Input Type: Basic Fault Designation: RADIO ALTIMETER Validity: Radio Altitude Valid Discrete #1 (+28V)					
PIN FUNCTION	**CONNECTION**	**PIN TYPE**	**CHANNEL DESIGNATION REFERENCE**			**Polarity/Configuration**		**Summary Data**
Radio Altitude Valid Discrete #1 (+28V)	J1B-19	Input	28v Disc 18			+28V = Valid 0V = Not Valid		
CHANNEL RX429-16	**CONNECT TO: EFIS #1 Bus 1 (Low Speed)**		**Fault Designation: DISPLAY BUS 1 Bus Type: BASIC**					
A = J2-C13 B = J2-C14	Data Decision Height/MDA	Reference 6.1.2.4.	Label 170	Sig. Bits 12/14	Range 4096/16,384	Signal Type Basic	Resolution 1	Rate (ms) 1000
CHANNEL RX429-17	**CONNECT TO: EFIS #2 Bus 2 (Low Speed)**		**Fault Designation: DISPLAY BUS 2 Bus Type: BASIC**					
A = J2-B14 B = J2-B15	Data Decision Height/MDA	Reference 6.1.2.4.	Label 170	Sig. Bits 12/14	Range 4096/16,384	Signal Type Basic	Resolution 1	Rate (ms) 1000

Configuration Data	Value	Reference Section
Out of Track Maximum	2800	SRD section 5.1.9
Out of Track Minimum	-20	SRD section 5.1.9
Unconfigured DH	False	SRD sections 6.4.R70; 6.10.6.2.R210

Table 5.2.2-6: Radio Altitude Input Select Type 6, Single APN-171/232

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA		
Radio Altimeter #1	(+) = J2-G12 (-) = J2-G13	6.3.2.3	Format: APN-171/232 with Track – No track Input Type: Basic Fault Designation: RADIO ALTIMETER Validity: Radio Altitude Valid Discrete #1 (+28V)		
PIN FUNCTION	**CONNECTION**	**PIN TYPE**	**CHANNEL DESIGNATION REFERENCE**	**Polarity/Configuration**	**Summary Data**
Radio Altitude Track Discrete #1 (+28V)	J1B-19	Input	28v Disc 18	+28V = Track 0V = No Track	
DH Discrete (+28V)	J2-D12	Input	28V Disc 10	+28V = < DH Open = > DH	

Configuration Data	Value	Reference Section
Out of Track Maximum	4800	SRD section 5.1.9
Out of Track Minimum	-20	SRD section 5.1.9
Unconfigured DH	True	SRD sections 6.4.R70; 6.10.6.2.R210

Table 5.2.2-7: Radio Altitude Input Select Type 7

Notes:
Intended for use with Terrain Display Type 24 using Display Input Control Group 11 (5.2.7.2).
Refer to Note-4 for Table 5.2.2 for additional information.

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Radio Altimeter #1	(+) = J1B-20 (-) = J1B-21	6.3.2.1	Format: ARINC 552 with Validity Flag Input Type: Basic Fault Designation: RADIO ALTIMETER Validity: Radio Altitude Valid Discrete #1 (+28V)
Radio Altimeter #2	(+) = J2-F08 (-) = J2-F09	6.3.2.1	Format: ARINC 552 with Validity Flag Input Type: Basic Fault Designation: RADIO ALTIMETER 2 Validity: Radio Altitude Valid Discrete #2 (+28V)

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Radio Altitude Valid Discrete #1 (+28V)	J1B-19	Input	28v Disc 18	+28V = Valid 0V = Not Valid	
Radio Altitude Valid Discrete #2 (+28V)	J1A-04	Input	28v Disc 13	+28V = Valid 0V = Not Valid	

CHANNEL RX429-1	CONNECT TO: EFIS SG #1 ISDAS Bus 429 out (High Speed)		Fault Designation: EFIS BUS 1 Bus Type: BASIC					
A = J2-C06 B = J2-C07	Data Decision Height	Reference 6.1.2.5.	Label 012	Sig. Bits 9	Range -512 to +511	Signal Type Basic	Resolution 1	Rate (ms) 1000
CHANNEL RX429-2	**CONNECT TO: EFIS SG #2 ISDAS Bus 429 out (High Speed)**		**Fault Designation: EFIS BUS 3 Bus Type: BASIC**					
A = J2-C08 B = J2-C09	Data Decision Height	Reference 6.1.2.5.	Label 012	Sig. Bits 9	Range -512 to +511	Signal Type Basic	Resolution 1	Rate (ms) 1000

Configuration Data	Value	Reference Section
Out of Track Maximum	2800	SRD section 5.1.9
Out of Track Minimum	-20	SRD section 5.1.9
Unconfigured DH	False	SRD sections 6.4.R70; 6.10.6.2.R210

Table 5.2.2-8: Radio Altitude Input Select Type 8 (LPIA-194)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Radio Altimeter #1	(+) = J1B-20 (-) = J1B-21	6.3.2.4	Format: LPIA-194 without Validity Flag Input Type: Basic Fault Designation: RADIO ALTIMETER

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
DH Discrete (Gnd)	J1A-25	Input	Gnd Disc 13	Gnd = < DH Open = > DH	

Configuration Data	Value	Reference Section
Out of Track Maximum	5000	SRD section 5.1.9
Out of Track Minimum	-30	SRD section 5.1.9
Unconfigured DH	True	SRD sections 6.4.R70; 6.10.6.2.R210

Table 5.2.2-9: Radio Altitude Input Select Type 9 (Digital ARINC 429 via Dual Collins IOC Buses)

CHANNEL RX429-16	**CONNECT TO: IOC-1 (High Speed) L-IOC (L-GP-5) Format: ARINC 429**		**Fault Designation: IOC Bus 1 Bus Type: Basic**					
A = J2-C13 B = J2-C14	Data Radio Altitude	Reference 6.1.2.1	Label 164	Sig. Bits 16	Range ± 8192 FT	Signal Type Basic	Resolution 0.125	Rate (ms) 25 to 50
CHANNEL RX429-17	**CONNECT TO: IOC-2 (High Speed) R-IOC (R-GP-5) Format: ARINC 429**		**Fault Designation: IOC Bus 2 Bus Type: Basic**					
A = J2-B14 B = J2-B15	Data Radio Altitude	Reference 6.1.2.1	Label 164	Sig. Bits 16	Range ± 8192 FT	Signal Type Basic	Resolution 0.125	Rate (ms) 25 to 50

Configuration Data	Value	Reference Section
Unconfigured DH	False	SRD sections 6.4.R70; 6.10.6.2.R210

5.2.3 Category 3, Air Data Select (Ppin 6, Ppin 15)

Document Revision History, Section 5.2.3

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/14/97 - A Loos	Tables 5.2.3-0,-1, -4, and -7	Clarified validity connection and states	202	202
11/16/97 - G Ostrom	Table 5.2.3	Removed Simulator Reposition selection from this category. Revised table indexes.	202	202
11/20/97 - A Loos	All	Add words to describe scope of category. Add effectivity to table 5.2.3	202	202
12/01/97 - G Ostrom	Table 5.2.3-7	SCR 2372, Added constant SAT for AZ-241	202	202
12/19/97 - G Ostrom	Table 5.2.3-2	SCR 2483, Removed (QNH) notation from Table 5.2.3-2.	202	202
01/06/98 - G Ostrom	Table 5.2.3-0,-4, and -7	SCR 2510, Revised Fault Messages for analog signal faults.	202	202
02/19/98 – A. Anderson	Table 5.2.3. Tables 5.2.3-8, 9, and 10.	SCR 2579: Added IDs 8, 9, and 10 to Table 5.2.3. Added Tables 5.2.3-8, 9 and 10.	204	204
03/02/98 – A. Anderson	Table 5.2.3-8.	SCR 2579: Changed header of Table 5.2.3-8.	204	204
03/03/98 – G Ostrom	Table 5.2.3-2,-6	SCR 2604: Removed TAS from ARINC 575 air data configurations, ID 2 and 6.	204	204
03/10/98 – B. Breen	Tables 5.2.3, 5.2.3-11, 5.2.3-12	SCR 2590: Added single and dual DAU input options for BA 747 Classics with Honeywell AFMS.	204	204
03/18/98 – G Ostrom	Tables 5.2.3-8 ,-9, -10	Changed header of Tables 5.2.3-8, -9, and -10.	204	204
04/02/98 – A. Anderson	Table 5.2.3-11	SCR 2590: Removed number from fault designation in Table 5.2.3-11.	204	204
04/17/98 – A. Anderson	Table 5.2.3-11	SCR 2590: Restored number to fault designation in Table 5.2.3-11.	204	204
04/24/98 – G Ostrom	Table 5.2.3-0	SCR 2579: Add number to bus fault designation in Table 5.2.3-0.	204	204
05/01/98 – S. Gagnon	Table 5.2.3	Added new revised Table 5.2.3	204	204
05/05/98 – G Ostrom	Table 5.2.3-9	SCR 2571: Removed UNCORRECTED from Fault Designation in table 5.2.3-9 Baro Altitude Rate input.	204	204
06/30/98 – G. Gilliland	Table 5.2.3-13	SCR 2895: Add ID 13.	206	206
08/19/98 – MJC	5.2.3	Added QFE/QNH description.	-	-
11/16/98 – A Loos	5.2.3	SCR 3241: Add note that 50-Ohm temperature probes can not be used.	-	-
11/31/98 – A Loos	TABLE 5.2.3 TABLE 5.2.3-14	SCR 3239: Add Dual Analog, Digital Baro Corrected Alt and SAT for C-141	-	-208
07/DEC/98 – R. Foster	Table 5.2.3 Table 5.2.3-15	SCR 3318: Add ID 15 and Table 5.2.3-15.	208	208
11/DEC/98–G. Burlingame	Table 5.2.3 Table 5.2.3.-16	SCR 2901: Added ID 16 and Table 5.2.3-16 defining full ARINC 565 with corrected baro for 747.	-	208
14/DEC/98 – H. Nguyen	Table 5.2.3 Table 5.2.3-17	SCR 3412: Added ID 17 and Table 5.2.3.17 defining full ARINC 565 without corrected baro for 747.	-	208
16/DEC/98 – D. Sawich	Table 5.2.3 Table 5.2.3-18	SCR 3404: Added ID 18 and Table 5.2.3-18 defining ARINC 565 with SAT and non ARINC Corrected Baro Alt for the L1011.		208
17/DEC/98 – D. Sawich	Table 5.2.3-16 Table 5.2.3-17 Table 5.2.3-18	Changed Static Air Temperature Input Type to Basic.		208

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
21/DEC/98 – J. Kistler	Table 5.2.3-18	SCR 3405: Updated table to add configurable item for Corrected Barometric Altitude Validity.	-	208
07/JAN/99 – MJC	5.2.3	Reserved IDs 21 & 22 for future use.	-	-
18/JAN/99 - NSP	Table 5.2.3-14	SCR 3239: Revised CAS No.1 Ref from J2-H10, J2-H11 to J2-E06, J2-E07		-208
20/JAN/99 – MPF	Table 5.2.3	SCR 3741: Add Air Data ID 23	-210	-210
05/FEB/99 – A Loos	TABLE 5.2.3-14:	SCR 3239: Change Corrected Alt and SAT references to ARINC 429	-	208
22/FEB/99 – MJC	Table 5.2.3-15	SCR 3318: Appended "1" IRS Bus Fault designation.	208	208
24/FEB/99 – H. Nguyen	Table 5.2.3-18	SCR 3564: Added configurable item CAltFinSynMax for Fine Coarse Altitude Conversion	208	208
25/FEB/99 – A Loos	TABLE 5.2.3-14:	SCR 3239: Clarified ARINC 429 SAT scaling.	-	208
02-MAR-99 – G. Ostrom	Table 5.2.3	SCR 3281: Added note 3 for air data IDs 2 and 6.	-	-
02-MAR-99 – D. Sawich	Table 5.2.3-18	SCR 3564: Added configurable item CAltCntUpLim for Fine Coarse Altitude Conversion	208	208
15-MAR-99 – A Loos	TABLE 5.2.3-14	SCR 3661: Swap pin assignments on CAS #2, J2-D8 & D9.	-	208
30-MAR-99 – M. Grigore	Table 5.2.3 Table 5.2.3-24	SCR 3717: Added Air Data type 24 in Table 5.2.3 and added Table 5.2.3-24 defining new Air Data type ARINC 565 Uncorrected Altitude, ARINC 545 CAS, No SAT and No Corrected Baro Alt.	-210	-210
05-APR-99 – M. Grigore	Table 5.2.3 Table 5.2.3-25	SCR 3737: Added Air Data type 25 in Table 5.2.3 and added Table 5.2.3-25.	-210	-210
06-APR-99 – M. Force	Table 5.2.3-23	SCR 3741: Updated table with A429 references.	-210	-210
07-APR-99 – D. Sawich	Table 5.2.3-5	SCR 3754: Changed SAT to a Basic signal type	-	-210
15-APR-99 – M.Calhoun	Table 5.2.3-21/22	SCR 3763: Added ID's 21 & 22.	-	-210
19-APR-99 – M. Grigore	Table 5.2.3-24 Table 5.2.3-25	Updated Traceability for Tables 5.2.3-24 & 25.	-	-
23-APR-99 – M. Grigore	Table 5.2.3-25	SCR 3737: Changed SAT to a Basic signal type.	-	-210
26-APR-99 – A. Anderson	Revision History	SCR 3741: Corrected SCR number in 20/Jan/99 entry.	-	-
04-MAY-99 – M.Calhoun	Table 5.2.3-22	SCR 3763: Marked ID 22 as reserved.	-	-210
07-MAY-99 – M. Force	Table 5.2.3-26	SCR 3872: Add new table.	-210	-210
10-MAY-99 – M.Calhoun	Table 5.2.3-21	SCR 3763: Deleted Corrected Altitude #2 from ID 21.	-	-210
12-MAY-99 – A Loos	Table 5.2.3 Table 5.2.3-27	SCR 3834: Add ID 27 for Navy C-2A	-	-210
28-MAY-99 – M.Calhoun	Table 5.2.3-21	SCR 3763: Added 'BaroRateValid' configurable.	-	-210
04-JUN-99 – M.Calhoun	Table 5.2.3-21	SCR 3763: Set 'AltimetryType = 1 since no source of uncorrected altitude present.	-	-210
29-JUN-99 – M. Force	Table 5.2.3-23	SCR 3998: Moved label 210 from channel 1 to channel 3 bus.	-210	-210
08-JUL-99 – M.Calhoun	Table 5.2.3-22	SCR 3865: Added ID 22.	-210	-210
08-JUL-99 – M.Calhoun	Table 5.2.3-28	SCR 4018: Added ID 28.	-210	-210
24-Sep-99 - A Loos	ALL	SCR 4334: Correct format errors. TABLE 5.2.3-11: AIR DATA INPUT SELECT #11, change TAT update rate to 250-500 ms.	-	-
10-JAN-00 – M.Calhoun	Table 5.2.3 Table 5.2.3-29	SCR 4730: Added ID 29.	-212	-212
11-FEB-00 – M. Force	Table 5.2.3-23	SCR 4872: Changed update rate of Label 204 to 100ms.	-212	-212
15-Feb-00 – A Loos	Table 5.2.3	Correct description in ID 1, add note to ID 9. Misc. document cleanup.	-	-

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
17-FEB-00 – M. Force	Table 5.2.3-23	SCR 4872: Change the Note to indicate function is processed as an FMS source input.	-212	-212
17-MAR-00 – M.Calhoun	Table 5.2.3	SCR 4730: Expanded note 4. Comment only.	-212	-212
27-MAR-00 – M.Calhoun	Table 5.2.3-29	SCR 4730: Revised AZ-241 Coarse Altitude reference input pins and swapped SIN/COS fine input pins.	-212	-212
24-MAY-00 – M. Henderson	Table 5.2.3-10, 5.2.3-13, 5.2.3-21, 5.2.3-24.	SCR 5169: Changed static air temperature input type from “Windshear” to “Basic”	-212	-212
26-MAY-00 – M. Henderson	Table 5.2.3-1, 5.2.3-8, 5.2.3-9, 5.2.3-10, 5.2.3-13, 5.2.3-16, 5.2.3-18.	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
17-AUG-00 – L. Caldeira	5.2.3	SCR 5241: Tracing only – removed 5.2.3 tracing.	-	-
01-DEC-00 – MJC	Table 5.2.3	Added notes 8 & 9 to clarify AZ-241 interface.	-	-
12-NOV-01 – G. Ostrom	Table 5.2.3-0	SCR 6497: Table 5.2.3-0 changed channel from 6 to 5 for Mercury compatibility.	-	-214
15-NOV-01 – MJC	Tables 5.2.3 & 5.2.3-21	SCR 6535: Added notes that ADC type 21 can not be used with Windshear aircraft types.	-	-
19-NOV-01 – MJC	Tables 5.2.3 & 5.2.3-28	SCR 6535: Added notes that ADC type 28 can not be used with Windshear aircraft types.	-	-
27-NOV-01 – N Paterson		SCR 6053: General cleanup		
28-NOV-01 – N Paterson	Table 5.2.3	SCR 6525: Added traceability		
15-MAR-02 – A Loos	Table 5.2.3 & 5.2.3-30	SCR 6792: Add new Type 30 ADC for Concorde	-216	-216
21-MAR-02 – A Anderson	Table 5.2.3-22, 5.2.3-28, 5.2.3-30	Fixed Tracing		
21-Mar-02 – A Loos	Table 5.2.3-9, -13, -14, -16, -17, -24, -30	SCR 6792: Remove Fine Uncorrected Altitude synchro and revised Captian’s Altimeter #1 QNH Corrected Altitude (Fine) reference in Table 5.2.3-30. Revise note on Uncorrected Altitude Fine Synchro in Tables 5.2.3-9, -13, -14, -16, -17, -24	-216	-216
07-APR-04 – Gill	Table 5.2.3	SCR 7947: Document Only. Added Note 12.	-	-
16-APR-04 – Gill	Table 5.2.3	SCR 7947: Document Only. Added tracing before Table 5.2.3	-	-
10-MAR-06 – M. Calhoun	Table 5.2.3 Table 5.2.3-0 Table 5.2.3-4 Table 5.2.3-17 Table 5.2.3-29	SCR 8201: Doc only changes as follows: Corrected ID 23 description to indicate Single. Deleted note 4 from ID 29. Rewrote third sentence of note 4. Added ID 31 to item 2 of note 12. Revised list of IDs in item 3 of note 12. Indicated this is a test only selection. Indicated this is a simulator selection. Corrected table title. Deleted note below table title.	-	-
25-MAY-06 – A. Lowe	Table 5.2.3 New Table 5.2.3-31	SCR 8686: Added new ID 31and Note 13 to Table 5.2.3. Added new table 5.2.3-31.	226	226
01-JUN-06 – A. Lowe	Table 5.2.3	SCR 8686: Updated ID 31 to fix typo, (i.e. 429, not 492). Updated Note 5 to include ‘Terrain Display Type 46’ and category 6.	226	226

The following table provides identification of the Air Data source. The entry in the Air Data Type corresponds to a table that provides detailed information on the configuration. For example, the details for Air Data Type #4 are found in Table 5.2.3-4.

In this category only the following signals are to be defined:

- Airspeed (CAS, TAS, IAS), with analog or ARINC 429 format, and associated validity.
- Altitude, Barometric or Inertial, Corrected or Uncorrected, analog or ARINC 429 format, and associated validity.
- Altitude Correction, analog.
- Altitude Rate/Vertical Speed, Barometric or Inertial, analog or ARINC 429 format, and associated validity.
- Static Air Temperature, analog or ARINC 429 format, and associated validity. Note: The standard input process cannot be used to accurately measure a 50-Ohm probe, see 4.2.5.

In cases where the above signals are on an ARINC 429 bus with other signals, you may :

- In the other categories select the same bus with the **same Fault Designation name and Channel** connection as this category In this case a single physical bus with a single connection satisfies more than one category, or;
- In the other categories select a **different bus Fault Designation name and Channel** connection and wire the connections to the same source (if loading permits). Note: In this case a single physical bus failure will result in multiple bus names being faulted in the MK VII EGPWS Self Test. In this case a single physical bus with multiple connections satisfies more than one category.

Note that Corrected Barometric Altitude is either QNH or QFE corrected. QNH correction sets the Corrected Barometric Altitude to zero feet at sea level, QFE correction sets the Corrected Barometric Altitude to zero feet at the runway elevation. Selection of QFE vs. QNH is done in the strapping for category 5 (section 5.2.5 of this document).

TABLE 5.2.3: AIR DATA SELECT (PPIN 6, PPIN 15)

ID	PP 6 State (J2-A10)	PP 15 State (J1A-34)	Air Data Type (Table 5.2.3-xx)	Description	Effectivity	
					App.	Cfg.
0	1	1	0 **(Note-1)**	Single Analog/Digital Baro Corr Alt. (Test only Air Data interface)	202	202
1	1	2	1	Single Digital 429/Coarse & Fine Sync Baro Corr Alt.	202	202
2	1	3	2 **(Notes-3, 12)**	Single Digital 575/Digital 575 Baro Corr Alt.	202	202
3	1	4	3 **(Notes-2, 12)**	Single Digital 429 with Baro Corr Alt (No WS)	202	202
4	1	5	4	Single DC Analog /DC Baro Corr Alt. (Simulators)	202	202
5	1	6	5	Single Digital 429 with Baro Corr Alt	202	202
6	1	7	6 **(Note-3)**	Single Digital 575 with Baro Corr Alt & No TAS	202	202
7	1	8	7 **(Note-8) (Note-9)**	Single Analog AZ-241-No Baro Corr Alt	202	202
8	1	9	8	Single Analog CIC 02942/Dual Sync Baro Corr Alt	204	204
9	1	10	9 **(Note-7)**	Single Analog AZ-242/Dual Sync Baro Corr Alt	204	204
10	2	1	10 **(Note-9)**	Single Analog AZ-241/Dual Sync Baro Corr Alt	204	204
11	2	2	11	Single Digital 429 (DAU) with Baro Corr Alt	204	204
12	2	3	12 **(Note-12)**	Dual Digital 429 (DAU) with Baro Corr Alt	204	204
13	2	4	13	Single ARINC 565 with Baro Corr /ARINC 545 CAS/no SAT	206	206
14	2	5	14 **(Note-12)**	Dual Analog, Digital Baro Corr. Alt and SAT for C-141	-	208
15	2	6	15 **(Note-12)**	Dual Digital 429 DADC (AZ-810), Digital Baro. Corr. Alt. from FMS, Digital Inertial Vert. Speed and Inertial Altitude from IRS	208	208
16	2	7	16	Single ARINC 565 with Baro Corr Alt	-	208
17	2	8	17	Single ARINC 565 with SAT/No Corrected Baro Altitude		208
18	2	9	18 **(Note-4)**	Single ARINC 565 with SAT & validity /non-ARINC Corr Baro Alt (L1011)	208	208
19	2	10	19	Spare	Future	Future
20	3	1	20	Spare	Future	Future
21	3	2	21 **(Note-10)**	ARINC 575 Mach/Alt Rate with Sync Baro Corr Alt without valid	-210	-210
22	3	3	22 **(Note-12)**	Dual Digital 429/Analog SAT	-210	-210
23	3	4	23 **(Note-12)**	Single Digital 429/Second channel with Baro Corr Alt.	-210	-210
24	3	5	24 **(Note-5)**	Single ARINC 565 no Baro Corr / ARINC 545 CAS/ no SAT	-210	-210
25	3	6	25 **(Note-5)**	Single Digital 429 no Baro Corr Alt.	-210	-210

ID	PP 6 State (J2-A10)	PP 15 State (J1A-34)	Air Data Type (Table 5.2.3-xx)	Description	Effectivity	
					App.	Cfg.
26	3	7	26 **(Note-12)**	Dual A429 with Baro Corr Alt.	-210	-210
27	3	8	27 **(Note-6)**	Single ARINC 429 with no Baro Corr Alt or TAS	-	-210
28	3	9	28 **(Notes-10, 12)**	Dual Digital 429/Analog TAT	-210	-210
29	3	10	29	Single Analog AZ-241 using its Coarse/Fine Corrected Baro Altitude outputs	-212	-212
30	4	1	30 **(Note 11)**	Analog ADC SAT, Concorde's Crouzet and Jaeger Altimeters	-216	-216
31	4	2	31 **(Note 13)**	Digital ARINC 429 via dual Collins IOC buses	-226	-226

Note-1: Restricted, to be use ONLY for Test Aircraft 1 & 2.

Note-2: Restricted, to be use ONLY for CAS King Air.

Note-3: This Air Data type should not be used on Windshear enabled aircraft prior to –204 –204.

Note-4: This configuration cannot be used with the Triple Radio Altimeter configuration of Category 2. For ID 18 there is a conflict with the Radio Altimeter #3 validity. In addition, it can not be used with Aircraft Types (category 1) that use the 28 VDC Flap Position Discrete #1 on pin J2-B10.

Note-5: This Air Data type is valid only with GPS as a position source.

Note-6: Designed for use with Category 6 ID 94 position source.

Note-7: AZ-242 installations require the Corrected Barometric Altitude signal also be connected to the Uncorrected Barometric Altitude input. Since barometric rate is derived from Uncorrected Barometric Altitude, this may result in nusiance Mode 1 and 3 warnings and also cause short-term TA&D Altitude errors.

Note-8: The Terrain Awareness function will be inoperative if this ID is selected unless using EGPWC p/n –206-206 or later AND a GPS input is selected via Category 6.

Note-9: The preferred method of interfacing to the AZ-241 is ID #29 which was made available starting with the –212-212 EGPWC.

Note-10: This Air Data type cannot be used on Windshear enabled aircraft.

Note-11: Not for general use, designed for Concorde unique Air Data System.

Note-12: Configuration can not be used with the following:

1) **Category 2 Radio Altimeter ID 7 (there is a conflict between the ARINC 429 channel definitions).**
2) **Category 5 Navigation ID's 1, 5, 6, 10, 26, 30, 31, 35 (there is a conflict between the ARINC 429 channel definitions).**
3) **Category 6 Position ID's 18, 25, 29, 46, 47, 72, 73, 80, 81, 84, 86, 92, 93, 95, 96, 97 (there is a conflict between the ARINC 429 channel definitions).**

Note-13: Intended for use with Terrain Display Type 45 and 46 (ProLine 21) and dual IOC buses in Categories 2, 4, 5, 6.

Table 5.2.3-0: Air Data Input Select #0 (TEST TYPE ONLY)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Alt Rate, CADC	(+) = J1B-37 (-) = J1B-38 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.1.2	Format: AC Ratio with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC RATE FAULT Validity: Barometric Alt Rate #1 Valid (+28V)
CAS, CADC	(X) = J1A-36 (Y) = J1A-37 (Z) = J1A-38 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.3.1	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED FAULT Validity: Airspeed Valid (+28V)
Uncorrected Altitude, CADC	(X) = J2-H06 (Y) = J2-H07 (Z) = J2-H08 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.6	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE FAULT Validity: Barometric Alt Rate #1 Valid (+28V)
Static Air Temperature, CADC	(+) = J2-J04 (-) = J2-J05 Reference Sig = J2-J07 Gnd =J2-J06	6.3.3.4.1	Format: DC Ratio Input Type: Windshear Fault Designation: STATIC AIR TEMPERATURE Note: Reference is inverted

CHANNEL[1] RX429-5	**CONNECT TO: ADC #1 (Hi Speed) Format: ARINC 429**		**Fault Designation: FMC BUS 1[2] Bus Type: Basic**					
A = J1A-17 B = J1A-18	Data Corrected Altitude	Reference 6.1.3.2.1	Label 204	Sig. Bits 17	Range ±131,072 FT	Signal Type Basic	Resolution 1.0	Rate (ms) 31.3-62.5

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V = Not Valid	
Airspeed Valid (+28V)	J2-G05	Input	28v Disc 06	+28V = Valid 0V = Not Valid	

[1] This was channel 6 prior to –214-214. Channel 6 conflicts with Mercury internal GPS Bus (see ICD section 5.2.6).
[2] Corrected Altitude is combined with position data on a single bus for qualification tests purposes.

Table 5.2.3-1: Air Data Input Select #1

CHANNEL RX429-3	CONNECT TO: ADC #1 (Low Speed) Format: ARINC 429		Fault Designation: AIR DATA BUS Bus Type: Basic					
A = J2-K08 B = J2-K09	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	62.5-125
	True Airspeed	6.1.3.3.2	210	15	±2048 KTS	Windshear	0.0625	62.5-125
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	31.3-62.5
	Static Air Temperature	6.1.3.4.1	213	11	±512 Degrees	Windshear	0.25	250-500

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Standby Altimeter QNH Corrected Altitude (Coarse)	(X) = J2-H06 (Y) = J2-H07 (Z) = J2-H08 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.4	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COARSE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)
Standby Altimeter QNH Corrected Altitude (Fine)	(X) = J1A-08 (Y) = J1A-09 (Z) = J1A-10 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.5	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V = Not Valid	

Table 5.2.3-2: Air Data Input Select #2

CHANNEL RX429-3	CONNECT TO: ADC #1 (Low Speed) Format: ARINC 575		Fault Designation: AIR DATA BUS #1 Bus Type: Basic					
A = J2-K08 B = J2-K09	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Uncorrected. Baro. Alt	6.2.6	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.2.2	206	13	±1024 KTS	Basic	0.125	62.5-125
	Barometric Rate	6.2.1	212	11	±20,480 fpm	Basic	10.0	62.5-125
	Static Air Temperature	6.2.4	213	10	±512 Deg	W/S	0.5	250-500
CHANNEL RX429-1	**CONNECT TO: Altitude Conversion Unit (ACU) (Low Speed) Format: ARINC 575**		**Fault Designation: AIR DATA BUS #2 Bus Type: Basic**					
A = J2-C06 B = J2-C07	Data 575	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Corrected Altitude	6.2.3	204	17	±131,072 FT	Basic	1.0	31.3-62.5

Table 5.2.3-3: Air Data Input Select #3

CHANNEL RX429-2	CONNECT TO: ADC #1 (Low Speed) Format: ARINC 429		Fault Designation: AIR DATA BUS Bus Type: Basic					
A = J2-C08 B = J2-C09	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Corrected Altitude	6.1.3.2.1	204	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	62.5-125
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	31.3-62.5

Table 5.2.3-4: Air Data Input Select #4 (SIMULATOR)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Alt Rate, Altimeter	(+) = J2-K04 (-) = J2-K05 (-) = J2- K07	6.3.3.1.1	Format: DC with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC RATE FAULT Validity: Barometric Alt Rate #1 Valid (+28V)
Uncorrected Alt, Altimeter	(+) = J2-E06 (-) = J2-E07	6.3.3.2.2	Format: DC with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE FAULT Validity: Barometric Alt Rate #1 Valid (+28V)
Calibrated Airspeed (CAS)	(+) = J2-D06 (-) = J2-D07	6.3.3.3.2	Format: DC with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED FAULT Validity:Airspeed Valid (+28V)
Baro Corr Alt, Altimeter	(+) = J2-H06 (-) = J2-H08	6.3.3.2.3	Format: DC Input Type: Basic Fault Designation: COARSE CORRECTED ALTITUDE FAULT Validity: Barometric Alt Rate #1 Valid (+28V)
Static Air Temp	(+) = J2-J04 (-) = J2-J05	6.3.3.4.2	Format: DC Input Type: Windshear Fault Designation: STATIC AIR TEMPERATURE

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V = Not Valid	
Airspeed Valid (+28V)	J2-G05	Input	28v Disc 06	+28V = Valid 0V = Not Valid	

Table 5.2.3-5: Air Data Input Select #5 (Honeywell AZ-810 ADC)

CHANNEL RX429-3	CONNECT TO: ADC #1 (Low Speed) Format: ARINC 429		Fault Designation: AIR DATA BUS Bus Type: Basic					
A = J2-K08	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-K09	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Corrected Altitude	6.1.3.2.1	204	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	62.5-125
	True Airspeed	6.1.3.3.2	210	15	±2048 KTS	W/S	0.0625	62.5-125
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	31.3-62.5
	Static Air Temperature	6.1.3.4.1	213	11	±512 Deg	Basic	0.25	250-500

Table 5.2.3-6 Air Data Input Select #6

CHANNEL RX429-3	CONNECT TO: ADC #1 (Low Speed) Format: ARINC 575		Fault Designation: AIR DATA BUS Bus Type: Basic					
A = J2-K08	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-K09	Uncorrected. Baro. Alt	6.2.6	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Corrected Altitude	6.2.3	204	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.2.2	206	13	±1024 KTS	Basic	0.125	62.5-125
	Barometric Rate	6.2.1	212	11	±20,480 fpm	Basic	10.0	31.3-62.5
	Static Air Temperature	6.2.4	213	10	±512 Deg	W/S	0.5	250-500

Table 5.2.3-7: Air Data Input Select #7 (Honeywell AZ-241)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Alt Rate, Altimeter	(Sig) = J1B-28 (+12) = J1B-29 (-12) = J1B-30	6.3.3.1.3	Format: DC with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC RATE FAULT Validity: Barometric Alt Rate #1 Valid (+28V)
Uncorrected Alt, Altimeter	(+) = J2-E06 (-) = J2-E07	6.3.3.2.8	Format: DC with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE FAULT Validity: Barometric Alt Rate #1 Valid (+28V)
Indicated Airspeed (IAS)	(+) = J1A-39 (-) = J1A-40	6.3.3.3.3	Format: DC with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED FAULT Validity: Airspeed Valid (+28V)
Static Air Temp	No Connection	6.3.3.4.3	Format: Internal Constant 25° C and Valid Note that the AZ-241 does not supply SAT. Input Type: Windshear Fault Designation: STATIC AIR TEMPERATURE

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V = Not Valid	
Airspeed Valid (+28V)	J2-G05	Input	28v Disc 06	+28V = Valid 0V = Not Valid	

Table 5.2.3-8: Air Data Input Select #8 (CIC 02942 with External Corrected Baro Altitude)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Alt Rate, Altimeter	(+) = J2-K04 (-) = J2-K05	6.3.3.1.4	Format: DC with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC RATE Validity: Barometric Alt Rate #1 Valid (+28V)
Uncorrected Alt, Altimeter	(+) = J2-E06 (-) = J2-E07	6.3.3.2.9	Format: DC with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)
Indicated Airspeed (IAS)	(+) = J1A-39 (-) = J1A-40	6.3.3.3.4	Format: DC with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED Validity: Airspeed Valid (+28V)
Static Air Temp	No Connection	6.3.3.4.3	Format: Internal Constant 25° C and Valid Note that the CIC 0294 does not supply SAT. Input Type: Windshear Fault Designation: Static Air Temperature
SIGNAL	**CONNECTION**	**REFERENCE**	**SUMMARY DATA**
Standby Altimeter QNH Corrected Altitude (Coarse)	(X) = J2-J1 (Y) = J2-J2 (Z) = J2-J3 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.10	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COARSE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) **NOTE: Valid Must be from the same source as basic inputs**
Standby Altimeter QNH Corrected Altitude (Fine)	(X) = J2-D8 (Y) = J2-D9 (Z) = J2-D10 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.11	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) **NOTE: Valid Must be from the same source as basic inputs**

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V (open) = Not Valid	
Airspeed Valid (+28V)	J2-G05	Input	28v Disc 06	+28V = Valid 0V (open)= Not Valid	

Table 5.2.3-9: Air Data Input Select #9 (Honeywell AZ-242 with External Corrected Baro Altitude)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Uncorrected Alt, Altimeter (FINE)	(X) = J1A-8 (Y) = J1A-9 (Z) = J1A-10 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.1.5	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) NOTE: **BARO ALTITUDE RATE IS DERIVED FROM "UNCORRECTED BARO ALTITUDE (FINE) INPUT". NOT USED FOR ALTITUDE COMPUTATION.**
Uncorrected Alt, Altimeter (COARSE)	(X) = J2-H6 (Y) = J2-H7 (Z) = J2-H8 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.6	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)
Indicated Airspeed (IAS)	(+) = J1A-39 (-) = J1A-40	6.3.3.3.4	Format: DC with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED Validity: Airspeed Valid (+28V)
Static Air Temp	No Connection	6.3.3.4.3	Format: Internal Constant 25° C and Valid Note that the AZ-242 does not supply SAT. Input Type: Windshear Fault Designation: Static Air Temperature
SIGNAL	**CONNECTION**	**REFERENCE**	**SUMMARY DATA**
Standby Altimeter QNH Corrected Altitude (Coarse)	(X) = J2-J1 (Y) = J2-J2 (Z) = J2-J3 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.10	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COARSE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) **NOTE: Valid Must be from the same source as basic inputs**
Standby Altimeter QNH Corrected Altitude (Fine)	(X) = J2-D8 (Y) = J2-D9 (Z) = J2-D10 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.11	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) **NOTE: Valid Must be from the same source as basic inputs**

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V (open) = Not Valid	
Airspeed Valid (+28V)	J2-G05	Input	28v Disc 06	+28V = Valid 0V (open) = Not Valid	

Table 5.2.3-10: Air Data Input Select #10 (Honeywell AZ-241 with External Corrected Baro Altitude)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Alt Rate, Altimeter	(Sig) = J1B-28 (+12) = J1B-29 (-12) = J1B-30	6.3.3.1.3	Format: DC with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC RATE Validity: Barometric Alt Rate #1 Valid (+28V)
Uncorrected Alt, Altimeter	(+) = J2-E06 (-) = J2-E07	6.3.3.2.8	Format: DC with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)
Indicated Airspeed (IAS)	(+) = J1A-39 (-) = J1A-40	6.3.3.3.3	Format: DC with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED Validity: Airspeed Valid (+28V)
Static Air Temp	No Connection	6.3.3.4.3	Format: Internal Constant 25° C and Valid Note that the AZ-241 does not supply SAT. Input Type: Basic
SIGNAL	**CONNECTION**	**REFERENCE**	**SUMMARY DATA**
Standby Altimeter QNH Corrected Altitude (Coarse)	(X) = J2-J1 (Y) = J2-J2 (Z) = J2-J3 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.10	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COARSE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) **NOTE: Valid Must be from the same source as basic inputs**
Standby Altimeter QNH Corrected Altitude (Fine)	(X) = J2-D8 (Y) = J2-D9 (Z) = J2-D10 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.11	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) **NOTE: Valid Must be from the same source as basic inputs**

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V(open) = Not Valid	
Airspeed Valid (+28V)	J2-G05	Input	28v Disc 06	+28V = Valid 0V(open)= Not Valid	

Table 5.2.3-11: Air Data Input Select #11 (Single Honeywell DAU for AFMS)

CHANNEL RX429-3	CONNECT TO: DAU #1 (High Speed) Format: ARINC 429		Fault Designation: DAU BUS 1 Bus Type: Basic					
A = J2-K08	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-K09	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	50
	Corrected Altitude	6.1.3.2.1	204	17	±131,072 FT	Basic	1.0	50
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	100
	True Airspeed	6.1.3.3.2	210	15	±2048 KTS	W/S	0.0625	100
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	50
	True Air Temperature	6.1.3.4.2	211	11	±512 Deg	W/S	0.25	250-500

Table 5.2.3-12: Air Data Input Select #12 (Dual Honeywell DAU for AFMS)

CHANNEL RX429-3	CONNECT TO: DAU #1 (High Speed) Format: ARINC 429		Fault Designation: DAU BUS 1 Bus Type: Basic					
A = J2-K08	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-K09	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	50
	Corrected Altitude	6.1.3.2.1	204	17	±131,072 FT	Basic	1.0	50
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	100
	True Airspeed	6.1.3.3.2	210	15	±2048 KTS	W/S	0.0625	100
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	50
	True Air Temperature	6.1.3.4.2	211	11	±512 Deg	W/S	0.25	200
CHANNEL RX429-1	**CONNECT TO: DAU #2 (High Speed) Format: ARINC 429**		**Fault Designation: DAU BUS 2 Bus Type: Basic**					
A = J2-C06	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-C07	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	50
	Corrected Altitude	6.1.3.2.1	204	17	±131,072 FT	Basic	1.0	50
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	100
	True Airspeed	6.1.3.3.2	210	15	±2048 KTS	W/S	0.0625	100
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	50
	True Air Temperature	6.1.3.4.2	211	11	±512 Deg	W/S	0.25	200

Table 5.2.3-13: Air Data Input Select #13 (Limited ARINC 565 with ARINC 545 CAS)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Uncorrected Alt, Altimeter (FINE)	(X) = J1A-8 (Y) = J1A-9 (Z) = J1A-10 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.1.5	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) NOTE: **BARO ALTITUDE RATE IS DERIVED FROM "UNCORRECTED BARO ALTITUDE (FINE) INPUT". NOT USED FOR ALTITUDE COMPUTATION.**
Uncorrected Alt, Altimeter (COARSE)	(X) = J2-H6 (Y) = J2-H7 (Z) = J2-H8 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.6	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)
CAS	(X) = J1A-36 (Y) = J1A-37 (Z) = J1A-38 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.3.***5***	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED FAULT Validity: Airspeed Valid (+28V)
Static Air Temp	No Connection	6.3.3.4.3	Format: Internal Constant 25° C and Valid Input Type: Basic
SIGNAL	**CONNECTION**	**REFERENCE**	**SUMMARY DATA**
Standby Altimeter QNH Corrected Altitude (Coarse)	(X) = J2-J1 (Y) = J2-J2 (Z) = J2-J3 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.10	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COARSE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) **NOTE: Valid Must be from the same source as basic inputs**
Standby Altimeter QNH Corrected Altitude (Fine)	(X) = J2-D8 (Y) = J2-D9 (Z) = J2-D10 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.11	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) **NOTE: Valid Must be from the same source as basic inputs**

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V (open) = Not Valid	
Airspeed Valid (+28V)	J2-G05	Input	28v Disc 06	+28V = Valid 0V (open) = Not Valid	

Table 5.2.3-14: Air Data Input Select #14 (C-141 SCADC)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Uncorrected Alt, Altimeter (FINE)1	(X) = J1A-8 (Y) = J1A-9 (Z) = J1A-10 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.1.5	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE ALTITUDE #1 Validity: Barometric Alt #1 Valid (+28V) NOTE: **BARO ALTITUDE RATE IS DERIVED FROM "UNCORRECTED BARO ALTITUDE (FINE) INPUT". NOT USED FOR ALTITUDE COMPUTATION.**
Uncorrected Alt, Altimeter (COARSE)1	(X) = J2-J1 (Y) = J2-J2 (Z) = J2-J3 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.12	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE #1 Validity: Barometric Alt #1 Valid (+28V)
Uncorrected Alt, Altimeter (FINE)2	(X) = J2-J8 (Y) = J2-J9 (Z) = J2-J10 Reference (H) = J2-K6 (C) = J2-K7	6.3.3.1.5	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE ALTITUDE #2 Validity: Barometric Alt #1 Valid (+28V) NOTE: **BARO ALTITUDE RATE IS DERIVED FROM "UNCORRECTED BARO ALTITUDE (FINE) INPUT". NOT USED FOR ALTITUDE COMPUTATION**
Uncorrected Alt, Altimeter (COARSE)2	(X) = J2-H6 (Y) = J2-H7 (Z) = J2-H8 Reference (H) = J2-K6 (C) = J2-K7	6.3.3.2.12	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE #2 Validity: Barometric Alt #1 Valid (+28V)
CAS #1	(X) = J1A-36 (Y) = J1A-37 (Z) = J1A-38 Reference (H) = J2-E06 (C) = J2-E07	6.3.3.3.6	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED FAULT #1 Validity: Airspeed Valid (+28V)
CAS #2	(X) = J2-D8 (Y) = J2-D9 (Z) = J2-D10 Reference (H) = J2-E8 (C) = J2-E9	6.3.3.3.6	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED FAULT #2 Validity: Airspeed Valid (+28V)

CHANNEL RX429-5	**CONNECT TO: FMS #1 (Hi Speed) Format: ARINC 429**		**Fault Designation: FMC BUS 1 Bus Type: Basic**					
A = J1A-17 B = J1A-18	Data Corrected Altitude Static Air Temperature[1]	Reference 6.1.3.2.1 6.1.3.4.1	Label 204 213	Sig. Bits 17 11	Range ±131,072 FT ±512 Deg	Signal Type Basic W/S	Resolution 1.0 0.25	Rate (ms) 31.3-62.5 250-500
CHANNEL RX429-2	**CONNECT TO: FMS #2 (Hi Speed) Format: ARINC 429**		**Fault Designation: FMC BUS 2 Bus Type: Basic**					
A = J2-C08 B = J2-C09	Data Corrected Altitude Static Air Temperature[1]	Reference 6.1.3.2.1 6.1.3.4.1	Label 204 213	Sig. Bits 17 11	Range ±131,072 FT ±512 Deg	Signal Type Basic W/S	Resolution 1.0 0.25	Rate (ms) 31.3-62.5 250-500

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Baro Alt #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid, 0V = Not Valid	
Baro Alt #2 Valid (+28V)	J2-D11	Input	28v Disc 08	+28V = Valid, 0V = Not Valid	
Airspeed Valid #1 (+28V)	J2-G05	Input	28v Disc 06	+28V = Valid, 0V = Not Valid	
Airspeed Valid #2 (+28V)	J2-D04	Input	28v Disc 04	+28V = Valid, 0V = Not Valid	

[1] The actual word will have BIT 18 as a PAD BIT, actual LSB is 0.5

Table 5.2.3-15: Air Data Input Select #15 (Dual Honeywell AZ-810, FMS, IRS)

CHANNEL RX429-3	**CONNECT TO: DADC #1 (Low Speed) Format: ARINC 429**		**Fault Designation: DADC BUS 1 Bus Type: Basic**					
A = J2-K08 B = J2-K09	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 Ft	Basic	1.0	50
	Computed Airspeed	6.1.3.3.1	206	14	±1024 Kts	Basic	0.0625	100
	Static Air Temperature	6.1.3.4.1	213	11	±512 Deg	Basic	0.25	250-500
CHANNEL RX429-1	**CONNECT TO: DADC #2 (Low Speed) Format: ARINC 429**		**Fault Designation: DADC BUS 2 Bus Type: Basic**					
A = J2-C06 B = J2-C07	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 Ft	Basic	1.0	50
	Computed Airspeed	6.1.3.3.1	206	14	±1024 Kts	Basic	0.0625	100
	Static Air Temperature	6.1.3.4.1	213	11	±512 Deg	Basic	0.25	250-500
CHANNEL RX429-5	**CONNECT TO: FMC #1 (High Speed) Format: ARINC 429**		**Fault Designation: FMC BUS 1 Bus Type: Basic**					
A = J1A-17 B = J1A-18	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Corrected Altitude	6.1.3.2.1	204	17	±131,072 Ft	Basic	1.0	50
CHANNEL RX429-4	**CONNECT TO: IRS (High Speed) Format: ARINC 429**		**Fault Designation: IRS BUS 1 Bus Type: Basic**					
A = J1A-11 B = J1A-12	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Inertial Vertical Speed	6.1.3.1.3	365	15	±32,768 Fpm	Basic	1.0 fpm	20-40
	Inertial Altitude	6.1.3.2.4	361	20	±131,072 Ft	Basic	0.125	50

Table 5.2.3-16: Air Data Input Select #16 (Full ARINC 565 with Corr Baro Synchro)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Uncorrected Alt, Altimeter (FINE)	(X) = J1A-8 (Y) = J1A-9 (Z) = J1A-10 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.1.5	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) NOTE: **BARO ALTITUDE RATE IS DERIVED FROM "UNCORRECTED BARO ALTITUDE (FINE) INPUT". NOT USED FOR ALTITUDE COMPUTATION.**
Uncorrected Alt, Altimeter (COARSE)	(X) = J2-H6 (Y) = J2-H7 (Z) = J2-H8 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.6	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)
CAS	(X) = J1A-36 (Y) = J1A-37 (Z) = J1A-38 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.3.1	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED FAULT Validity: Airspeed Valid (+28V)
Static Air Temperature	(+) = J2-J04 (-) = J2-J05 Reference Sig = J2-J07 Gnd =J2-J06	6.3.3.4.1	Format: DC Ratio Input Type: Basic Fault Designation: STATIC AIR TEMPERATURE Note: Reference is inverted
SIGNAL	**CONNECTION**	**REFERENCE**	**SUMMARY DATA**
Standby Altimeter QNH Corrected Altitude (Coarse)	(X) = J2-J1 (Y) = J2-J2 (Z) = J2-J3 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.10	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COARSE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) **NOTE: Valid Must be from the same source as basic inputs**
Standby Altimeter QNH Corrected Altitude (Fine)	(X) = J2-D8 (Y) = J2-D9 (Z) = J2-D10 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.11	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) **NOTE: Valid Must be from the same source as basic inputs**

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V (open) = Not Valid	
Airspeed Valid (+28V)	J2-G05	Input	28v Disc 06	+28V = Valid 0V (open) = Not Valid	

Table 5.2.3-17: Air Data Input Select #17 (Full ARINC 565 with SAT/no Corrected Baro Altitude - 747-200)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Uncorrected Alt, Altimeter (FINE)	(X) = J1A-8 (Y) = J1A-9 (Z) = J1A-10 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.1.5	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) NOTE: **BARO ALTITUDE RATE IS DERIVED FROM "UNCORRECTED BARO ALTITUDE (FINE) INPUT". NOT USED FOR ALTITUDE COMPUTATION.**
Uncorrected Alt, Altimeter (COARSE)	(X) = J2-H6 (Y) = J2-H7 (Z) = J2-H8 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.6	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)
CAS, CADC	(X) = J1A-36 (Y) = J1A-37 (Z) = J1A-38 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.3.1	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED FAULT Validity: Airspeed Valid (+28V)
Static Air Temperature, CADC	(+) = J2-J04 (-) = J2-J05 Reference Sig = J2-J07 Gnd =J2-J06	6.3.3.4.1	Format: DC Ratio Input Type: Basic Fault Designation: STATIC AIR TEMPERATURE Note: Reference is inverted

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V = Not Valid	
Airspeed Valid (+28V)	J2-G05	Input	28v Disc 06	+28V = Valid 0V = Not Valid	

Table 5.2.3-18: Air Data Input Select #18 (Single ARINC 565 with SAT & Validity /non-ARINC Corr Baro Alt - L1011)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Uncorrected Alt, Altimeter (COARSE)	(X) = J2-H06 (Y) = J2-H07 (Z) = J2-H08 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.6	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)
Baro Alt Rate	(+) = J1B-37 (-) = J1B-38 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.1.2	Format: AC Ratio with validity Flag Input type: Basic Fault Designation: BAROMETRIC RATE FAULT Validity: Barometric Alt Rate #1 Valid (+28V)
CAS	(X) = J1A-36 (Y) = J1A-37 (Z) = J1A-38 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.3.***5***	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED FAULT Validity: Airspeed Valid (+28V)
Static Air Temperature, CADC	(+)= J2-J04 (-) = J2-J05 Regference (H) = J2-J07 (C) = J2-J06	6.3.3.4.4	Format: DC Ratio with validity Flag Input Type: Basic Fault Designation: STATIC AIR TEMPERATURE Validity: Static Air Temperature validity (+28V) Note: Reference is inverted. Note: Can not use with Triple Radio Altimeter – Validity discrete conflict.
SIGNAL	**CONNECTION**	**REFERENCE**	**SUMMARY DATA**
Corrected Baro Altitude (Coarse)	(X) = J2-J01 (Y) = J2-J02 (Z) = J2-J03 Reference (H) = J2-G08 (C) = J2-G09	6.3.3.2.13	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COARSE CORRECTED ALTITUDE Validity: Corrected Barometric Alt valid (+28V)
Corrected Baro Altitude (Fine)	(X) = J2-D08 (Y) = J2-D09 (Z) = J2-D10 Reference (H) = J2-G08 (C) = J2-G09	6.3.3.2.14	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE CORRECTED ALTITUDE Validity: Corrected Barometric Alt Valid (+28V)

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V (open) = Not Valid	
Airspeed Valid (+28V)	J2-G05	Input	28v Disc 06	+28V = Valid 0V (open) = Not Valid	
Corrected Barometric Alt valid (+28 V)	J2-C05	Input	28v Disc 05	+28V = Valid 0V (open) = Not Valid	
Static Air Temperature Valid (+28V)	J2-B10	Input	28v Disc 07	+28V = Valid 0V (open) = Not Valid	Radio Alt. #3 validity discrete

Configuration Data	Type	Reference Section
CorrBaroValid	True	SRD section 5.7.6
CAltFinSynMax	13,750 feet	SRD section 5.7.6.1
CAltCntUpLim	+5	SRD section 5.7.6.1

Table 5.2.3-21: Air Data Input Select #21 (ARINC 575 Mach/Alt Rate with Corrected Baro Altitude)

Note: This Air Data type can not be used on Windshear enabled aircraft.

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Altitude Rate	(Sig) = J1B-28 (+12) = J1B-29 (-12) = J1B-30	6.3.3.1.6	Format: DC with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC RATE Validity: Barometric Alt Rate Valid (+28V)
Mach	(+) = J1A-39 (-) = J1A-40	6.3.3.3.7	Format: DC with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED Validity: Barometric Alt Rate Valid (+28V)
Static Air Temp	No Connection	6.3.3.4.3	Format: Internal Constant 25° C and Valid Note that the BARC does not supply SAT. Input Type: Basic
SIGNAL	**CONNECTION**	**REFERENCE**	**SUMMARY DATA**
Servo Altimeter #1 QNH Corrected Altitude (Coarse)	(X) = J2-J1 (Y) = J2-J2 (Z) = J2-J3 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.15	Format: 5 Wire Synchro Input Type: Basic Fault Designation: COARSE CORRECTED ALTITUDE Validity: No Flag
Servo Altimeter #1 QNH Corrected Altitude (Fine)	(X) = J2-D8 (Y) = J2-D9 (Z) = J2-D10 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.16	Format: 5 Wire Synchro Input Type: Basic Fault Designation: FINE CORRECTED ALTITUDE Validity: No Flag

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V(open) = Not Valid	

Configuration Data	Type	Reference Section
BaroRateValid	True	SRD section 5.4.4
Altimetry Type	1	SRD section 5.47.1

Table 5.2.3-22: Air Data Input Select #22 (Dual ARINC 429 with single analog SAT)

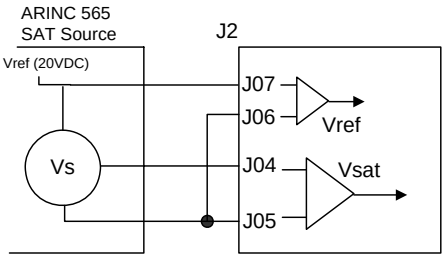
CHANNEL RX429-3	**CONNECT TO: ADC #1 (Low Speed) (or Altimeter #1) Format: ARINC 429**		**Fault Designation: AIR DATA BUS 1 Bus Type: Basic**					
A = J2-K08 B = J2-K09	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Corrected Altitude	6.1.3.2.1	204	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	62.5-125
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	31.3-62.5
CHANNEL RX429-1	**CONNECT TO: ADC #2 (Low Speed) (or Altimeter #2) Format: ARINC 429**		**Fault Designation: AIR DATA BUS 2 Bus Type: Basic**					
A = J2-C06 B = J2-C07	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Corrected Altitude	6.1.3.2.1	204	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	62.5-125
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	31.3-62.5
Static Air Temperature, ARINC 565	(+) = J2-J04 (-) = J2-J05 Reference Sig = J2-J07 Gnd =J2-J06	6.3.3.4.1	Format: DC Ratio Input Type: Basic Fault Designation: STATIC AIR TEMPERATURE Note: Reference is inverted 					

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Table 5.2.3-23: Air Data Input Select #23 (ARINC 429)

CHANNEL RX429-3	CONNECT TO: ADC #1 (Low Speed) Format: ARINC 429		Fault Designation: AIR DATA BUS #1 Bus Type: Basic					
A = J2-K08 B = J2-K09	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	62.5-125
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16 fpm	31.3-62.5
	Static Air Temperature	6.1.3.4.1	213	11	±512 Deg	Basic	0.25	250-500
	True Airspeed	6.1.3.3.2	210	15	±2,048 KTS	Basic	0.0625	62.5-125
CHANNEL RX429-1	**CONNECT TO: ADC#2 (Low Speed) Format: ARINC 429**		**Fault Designation: AIR DATA BUS #2 (see Note) Bus Type: Basic**					
A = J2-C06 B = J2-C07	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Corrected Altitude	6.1.3.2.2	204	17	±131,072 FT	Basic	1.0	100 ms

NOTE: ADC #2 IS PROCESSED AS AN FMS SOURCE.

Table 5.2.3-24: Air Data Input Select #24 (ARINC 565 Uncorrected Altitude, No Baro Corrected, ARINC 545 CAS, No SAT)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Uncorrected Alt, Altimeter (FINE)	(X) = J1A-8 (Y) = J1A-9 (Z) = J1A-10 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.1.5	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V) NOTE: **BARO ALTITUDE RATE IS DERIVED FROM "UNCORRECTED BARO ALTITUDE (FINE) INPUT". NOT USED FOR ALTITUDE COMPUTATION.**
Uncorrected Alt, Altimeter (COARSE)	(X) = J2-H6 (Y) = J2-H7 (Z) = J2-H8 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.6	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)
CAS	(X) = J1A-36 (Y) = J1A-37 (Z) = J1A-38 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.3.***5***	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED FAULT Validity: Airspeed Valid (+28V)
Static Air Temp	No Connection	6.3.3.4.3	Format: Internal Constant 25° C and Valid Input Type: Basic

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V (open) = Not Valid	
Airspeed Valid (+28V)	J2-G05	Input	28v Disc 06	+28V = Valid 0V (open) = Not Valid	

Table 5.2.3-25: Air Data Input Select #25 (Honeywell AZ-810 ADC)

CHANNEL RX429-3	CONNECT TO: ADC #1 (Low Speed) Format: ARINC 429		Fault Designation: AIR DATA BUS Bus Type: Basic					
A = J2-K08	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-K09	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	62.5-125
	True Airspeed	6.1.3.3.2	210	15	±2048 KTS	W/S	0.0625	62.5-125
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	31.3-62.5
	Static Air Temperature	6.1.3.4.1	213	11	±512 Deg	Basic	0.25	250-500

Table 5.2.3-26: Air Data Input Select #26 (Sperry AZ-800 ADC)

CHANNEL RX429-3	CONNECT TO: ADC #1 (Low Speed) Format: ARINC 429		Fault Designation: AIR DATA BUS 1 Bus Type: Basic					
A = J2-K08	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-K09	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Corrected Altitude	6.1.3.2.1	204	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	62.5-125
	True Airspeed	6.1.3.3.2	210	15	±2048 KTS	W/S	0.0625	62.5-125
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	31.3-62.5
	Static Air Temperature	6.1.3.4.1	213	11	±512 Deg	Basic	0.25	250-500
CHANNEL RX429-1	**CONNECT TO: ADC #2 (Low Speed) Format: ARINC 429**		**Fault Designation: AIR DATA BUS 2 Bus Type: Basic**					
A = J2-C06	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-C07	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Corrected Altitude	6.1.3.2.1	204	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	62.5-125
	True Airspeed	6.1.3.3.2	210	15	±2048 KTS	W/S	0.0625	62.5-125
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	31.3-62.5
	Static Air Temperature	6.1.3.4.1	213	11	±512 Deg	Basic	0.25	250-500

Table 5.2.3-27: Air Data Input Select #27 (Navy C-2A CDNU)

CHANNEL RX429-5	CONNECT TO: ADC #1 (Low Speed) Format: ARINC 429		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J1A-18	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	62.5-125
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	31.3-62.5
	Static Air Temperature	6.1.3.4.1	213	11	±512 Deg	Basic	0.25	250-500

Note: Designed for use with Category 6 ID 94 position source.

Table 5.2.3-28: Air Data Input Select #28 (Dual ARINC 429 with single analog TAT)

Note: This Air Data type cannot be used on Windshear enabled aircraft.

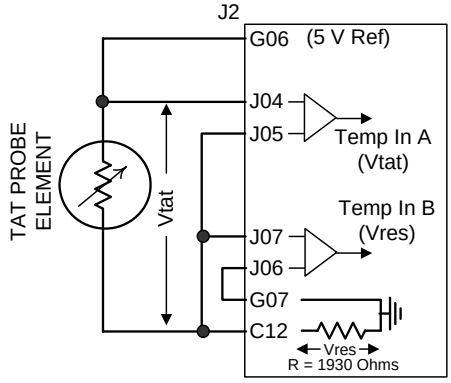
CHANNEL RX429-3	**CONNECT TO: ADC #1 (Low Speed) (or Altimeter #1) Format: ARINC 429**		**Fault Designation: AIR DATA BUS 1 Bus Type: Basic**					
A = J2-K08	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-K09	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Corrected Altitude	6.1.3.2.1	204	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	62.5-125
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	31.3-62.5
CHANNEL RX429-1	**CONNECT TO: ADC #2 (Low Speed) (or Altimeter #2) Format: ARINC 429**		**Fault Designation: AIR DATA BUS 2 Bus Type: Basic**					
A = J2-C06	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-C07	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Corrected Altitude	6.1.3.2.1	204	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	62.5-125
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	31.3-62.5
Total Air Temperature Probe element Excitation: (+) = J2-G06 (-) = J2-C12 Temp Input A (probe element): (+) = J2-J04 (-) = J2-J05 Temp Input B (EGPWC resistor): (+) = J2-J07 (-) = J2-J06		6.3.3.4.5	Format: DC Ratio Input Type: Basic Fault Designation: TRUE AIR TEMPERATURE Note: Reference is inverted  						

Table 5.2.3-29: Air Data Input Select #29 (Honeywell AZ-241 using its Corrected Baro Altitude)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Alt Rate, Altimeter	(Sig) = J1B-28 (+12) = J1B-29 (-12) = J1B-30	6.3.3.1.3	Format: DC with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC RATE Validity: Barometric Alt Rate #1 Valid (+28V)
Uncorrected Alt, Altimeter	(+) = J2-E06 (-) = J2-E07	6.3.3.2.8	Format: DC with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)
Indicated Airspeed (IAS)	(+) = J1A-39 (-) = J1A-40	6.3.3.3.3	Format: DC with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED Validity: Airspeed Valid (+28V)
Static Air Temp	No Connection	6.3.3.4.3	Format: Internal Constant 25° C and Valid Note that the AZ-241 does not supply SAT. Input Type: Windshear Fault Designation: Static Air Temperature
Corrected Altitude (Coarse)	(sig) = J2-H06 (gnd) = J2-H08 Reference (+15) = J2-K06 (gnd) = J2-K07	6.3.3.2.17	Format: DC ratiometric with Validity Flag Input Type: Basic Fault Designation: COARSE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)
Corrected Altitude (Fine)	(cos) = J2-J01 (sin) = J2-J02 (com) = J2-J03 Reference (26 VAC) (H) = J1B-39 (C) = J1B-40	6.3.3.2.18	Format: 3 Wire sin/cos resolver with validity flag Input Type: Basic Fault Designation: FINE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V(open) = Not Valid	
Airspeed Valid (+28V)	J2-G05	Input	28v Disc 06	+28V = Valid 0V(open)= Not Valid	

Table 5.2.3-30: Analog Air Data Select #30 (Concorde Unique)

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Uncorrected Alt, Altimeter #1 (Coarse)	(X) = J2-H6 (Y) = J2-H7 (Z) = J2-H8 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.19	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: BAROMETRIC ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)
CAS #1	(X) = J1A-36 (Y) = J1A-37 (Z) = J1A-38 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.3.8	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COMPUTED AIRSPEED FAULT Validity: Airspeed Valid (+28V)
Baro Alt Rate #1	(+) = J1B-37 (-) = J1B-38 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.1.7	Format: AC Ratio with validity Flag Input type: Basic Fault Designation: BAROMETRIC RATE FAULT Validity: Barometric Alt Rate #1 Valid (+28V)
Static Air Temperature #1	(+) = J2-J04 (-) = J2-J05 Reference Sig = J2-J07 Gnd =J2-J06	6.3.3.4.1	Format: DC Ratio Input Type: Basic Fault Designation: STATIC AIR TEMPERATURE Note: Reference is inverted
Captian's Altimeter #1 QNH Corrected Altitude (Coarse)	(X) = J2-J1 (Y) = J2-J2 (Z) = J2-J3 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.20	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: COARSE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)
Captian's Altimeter #1 QNH Corrected Altitude (Fine)	(X) = J2-D8 (Y) = J2-D9 (Z) = J2-D10 Reference (H) = J1B-39 (C) = J1B-40	6.3.3.2.11	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: FINE CORRECTED ALTITUDE Validity: Barometric Alt Rate #1 Valid (+28V)

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Barometric Alt Rate #1 Valid (+28V)	J1B-27	Input	28v Disc 16	+28V = Valid 0V (open) = Not Valid	
Airspeed Valid (+28V)	J2-G05	Input	28v Disc 06	+28V = Valid 0V (open) = Not Valid	

Table 5.2.3-31: Air Data Input Select #31 (Digital ARINC 429 via dual Collins IOC Buses)

CHANNEL RX429-16	**CONNECT TO: IOC-1 (High Speed) L-IOC (L-GP-5) Format: ARINC 429**		**Fault Designation: IOC BUS 1 Bus Type: Basic**					
A = J2-C13	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-C14	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Corrected Altitude	6.1.3.2.1	204	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	62.5-125
	True Airspeed	6.1.3.3.2	210	15	±2048 KTS	W/S	0.0625	62.5-125
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	31.3-62.5
	Static Air Temperature	6.1.3.4.1	213	11	±512 Deg	Basic	0.25	250-500
CHANNEL RX429-17	**CONNECT TO: IOC-2 (High Speed) R-IOC (R-GP-5) Format: ARINC 429**		**Fault Designation: IOC BUS 2 Bus Type: Basic**					
A = J2-B14	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-B15	Uncorrected. Baro. Alt	6.1.3.2.3	203	17	±131,072 FT	Basic	1.0	31.3-62.5
	Corrected Altitude	6.1.3.2.1	204	17	±131,072 FT	Basic	1.0	31.3-62.5
	Computed Airspeed	6.1.3.3.1	206	14	±1024 KTS	Basic	0.0625	62.5-125
	True Airspeed	6.1.3.3.2	210	15	±2048 KTS	W/S	0.0625	62.5-125
	Barometric Rate	6.1.3.1.1	212	11	±32,768 fpm	Basic	16.0	31.3-62.5
	Static Air Temperature	6.1.3.4.1	213	11	±512 Deg	Basic	0.25	250-500

5.2.4 Category 4, Attitude/Accel Select and Flashing Lamp (Ppin 16, Ppin 13)

Document Revision History, Section 5.2.4

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/14/97 - A Loos	Table 5.2.4-0, -1, -2, -3, and -5	Clarified validity connection and states	202	202
11/16/97 - G Ostrom	Table 5.2.4	Removed Steep Approach selection from this category. Revised table indexes.	202	202
11/17/95 - A Loos	Table 5.2.4-1	Change BIAX Self Test Output reference to 4.2.19	202	202
11/20/97 - A Loos	All	Add words to describe scope of category. Add effectivity to table 5.2.4	202	202
02/23/98 – M. Calhoun	5.2.4	SCR 2556: Added IDs 12 &13.	204	204
03/11/98 – B. Breen	Tables 5.2.4, 5.2.4-7	SCR 2590: Added IDs 14 & 15	204	204
04/18/98 - G Ostrom	Table 5.2.4-4, -6	SCR 2556: Revised fault designation for single bus configurations to xxx BUS 1.	204	204
05/01/98 - S. Gagnon	Table 5.2.4	Added New revised Table 5.2.4	204	204
07/31/98 – P. Buller	Tables 5.2.4 Table 5.2.4-8	SCR 3018: Added IDs 16 & 17	206	206
09/17/98 – L. Caldeira	5.2.4-7	Added tracing for this table.	-	-
09/23/98 – Gary Boyd	5.2.4-8	SCR 3142: Added Pitch Rate Label 326	206	206
09/28/98 - G Ostrom	Table 5.2.4	Added note 2 to describe a configuration restriction.	206	206
07/DEC/98 – R. Foster	Table 5.2.4 Table 5.2.4-9	SCR 3318: Add ID 18/19 to Table 5.2.4, and Table 5.2.4-9.	208	208
05/JAN/99 – M. Calhoun	Table 5.2.4	Corrected note 2 below table 5.2.4. It referenced 5.2.6-25, changed to refer to 5.2.6-24.	-	-
02-FEB-99 - NSP	Table 5.2.4-6	SCR 3413: Added Body Roll Rate (label 327)	208	208
22/FEB/99 – MJC	Table 5.2.4-9	SCR 3318: Appended "1" IRS Bus Fault designation.	208	208
22/FEB/99 – R. Foster	Table 5.2.4-9	SCR 3318: Deleted “Body Long Accel” and “Body Normal Accel” W/S parameters from IRS Bus requirement (no windshear aircraft type).	208	208
02-MAR-99 – G. Ostrom	Table 5.2.4	SCR 3281: Added note 3 to table 5.2.4.	-	-
02-MAR-99 – L. Matter	Table 5.2.4	Documentation change: Attitude/Acceleration Input Select 2, added ‘DC10’ to Linear Accel description. Attitude/Acceleration Input Select 7, added ‘Biax’ to Accel description.	-	-
09-APR-99 – R. Halbert	Table 5.2.4	SCR 3964 Add type 10 for L1011 Attitude and Acceleration.	-210	-210
07-MAY-99 – M. Force	Table 5.2.4 Table 5.2.4-11	SCR 3873: Add new table.	-210	-210
16-JUL-99 – M. Force	Table 5.2.4	SCR 3873: Added Note 4.	-	-210
9-SEP-99 – M. Force	Table 5.2.4-11	SCR 4256: Added Note 2	-	-210
24-Sep-99 - A Loos	ALL	SCR 4334: Correct format errors	-	-
15-Feb-00 – A Loos	Table 5.2.4	Add pin numbers	-	-
24-MAY-00 – M. Henderson	Table 5.2.4-1, 5.2.4-7, 5.2.4-8.	SCR 5169: Added in “Output Type: Windshear” for ASA BIAX.	-212	-212
26-MAY-00 – M. Henderson	Table 5.2.4	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
17-AUG-00 – L. Caldeira	5.2.4	SCR 5241: Tracing only. Removed 5.2.4 tracing.	-	-

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
16-JAN-01 – MJC	5.2.4	Commentary only: Clarified that Att/Accel Input Select Table number, and not program pin ID number, is reflected in present status.	-	-
27-NOV-01 – N Paterson		SCR 6053: General cleanup		
28-NOV-01 – N Paterson	Table 5.2.4	SCR 6525: Added traceability		
11-JUN-02 – G. Ostrom	Table 5.2.4	SCR 6608: Document only update: Updated note 4 in table 5.2.4. Also updated Note 2 of table 5.2.4-11.	-	-
10-MAR-06 – M. Calhoun	Table 5.2.4	SCR 8201: Doc only change to delete mention of acceleration input for type 9.	-	-
25-MAY-06 – A. Lowe	Table 5.2.4 New Table 5.2.4-12	SCR 8686: Added new 'Input Select Type 12', IDs 24 and 25, and Note 5 to Table 5.2.4. Added new table 5.2.4-12.	226	226
01-JUN-06 – A. Lowe	Table 5.2.4 Table 5.2.4-12	SCR 8686: Updated Table 5.2.4, Note 5 to include 'Terrain Display Type 46' and category 6. Updated Table 5.2.2-9 to include 'Format: ARINC 429'. Clarified previous audit trail by listing added IDs. Deleted note associated with Table 5.2.4-12.	226	226
01-AUG-06 – A. Lowe	Table 5.2.4-12	SCR 8779: Added windshear signal 'Body Pitch Rate #1' to Table 5.2.4-12.	226	226
02-AUG-06 – A. Lowe	Table 5.2.4-12	SCR 8779: Updated signal 'Body Pitch Rate #1' to 'Body Pitch Rate' and removed trailing zeros under the 'Resolution' column.	226	226

The following table provides identification of the Attitude, Acceleration, and Flashing Lamp sources/configuration. Each entry in the ID column identifies a combination of Flashing Lamps with a particular Attitude/Acceleration Input configuration. This results in each Attitude/Acceleration Input configuration having an ID associated with all two possible combinations of Flashing Lamps configuration. The entry in the Attitude/Acceleration Input Select corresponds to a table that provides detailed information on the configuration. For example, the details for Attitude/Acceleration Input Select #4 are found in Table 5.2.4-4.

Note that the selected configuration will be reported in Present Status (and level 3 self test) by identifying the state of the flashing lamps selection and the Attitude/Acceleration table number selected. For example, if program pin ID number 11 was selected the configuration read-out would include both *Attitude and Acceleration Type = 5* and *Flashing Lamps Selected*. If ID number 10 was selected then it would read *Attitude and Acceleration Type = 5* but the Flashing Lamp Item would not be indicated.

In this category, only the following signals are to be defined:

- Pitch Angle (body or indicated), with analog or ARINC 429 format, and associated validity.
- Pitch Rate (body or indicated), with analog or ARINC 429 format, and associated validity.
- Roll Angle, analog or ARINC 429 format, and associated validity.
- Longitudinal Acceleration, analog or ARINC 429 format, and associated validity.
- Normal Acceleration, analog or ARINC 429 format, and associated validity.
- Accelerometer Self Test discrete input and/or analog output.
- Attitude Mode, ARINC 429.

In cases where the above signals are on an ARINC 429 bus with other signals, you may :

- In the other categories select the same bus with the **same Fault Designation name and Channel** connection as this category. In this case a single physical bus with a single connection satisfies more than one category, or;
- In the other categories select a **different bus Fault Designation name and Channel** connection and wire the connections to the same source (if loading permits). Note: In this case a single physical bus failure will result in multiple bus names being faulted in the MK VII EGPWS Self Test. In this case a single physical bus with multiple connections satisfies more than one category.

Table 5.2.4: Attitude/Accel Select and Flashing Lamp. (Ppin 16, Ppin 13)

ID	PP 16 State (J1A-35)	PP 13 State (J1A-29)	Flashing Lamps	Attitude / Acceleration Input Select Type (Table 5.2.4-xx)	Description	Effectivity App.	Effectivity Cfg.
0	1	1	N	0 (Note-3)	Single Analog P/R & Biax Accel (No Self Test)	202	202
1	1	2	Y			202	202
2	1	3	N	1 (Note-3)	Single Analog P/R & Biax Accel with Self Test	202	202
3	1	4	Y			202	202
4	1	5	N	2 (Note-3)	Single Analog P/R & DC10 Linear Accel with Self Test in Progress and Accel Valids	202	202
5	1	6	Y			202	202
6	1	7	N	3 (Note-3)	Single DC Analog P/R & Accel (No Self Test) Simulator	202	202
7	1	8	Y			202	202
8	1	9	N	4 (Note-1)	Single Digital 429 P/R & Accel	202	202
9	1	10	Y			202	202
10	2	1	N	5	Single Analog P/R, No Accel (No WS Aircraft)	202	202
11	2	2	Y			202	202
12	2	3	N	6	Single Digital 429 P/R & Accel	204	204
13	2	4	Y			204	204
14	2	5	N	7 (Note-2)	Dual Analog P/R & Biax Accel with Self Test	204	204
15	2	6	Y			204	204
16	2	7	N	8	Single Digital P/R & Biax Accel with Self Test	206	206
17	2	8	Y			206	206
18	2	9	N	9	Single Digital 429 P/R (IRS) and Single Digital 429 P/R (FMS) – can not be used if Windshear function is required.	208	208
19	2	10	Y			208	208
20	3	1	N	10	Single Analog P/R for L1011 (No Self Test)	210	210
21	3	2	Y			210	210
22	3	3	N	11 (Note-4)	Dual Digital 429 P/R & Accel	210	210
23	3	4	Y			210	210
24	3	5	N	12 (Note-5)	Digital ARINC 429 via dual Collins IOC buses	226	226
25	3	6	Y				

Note-1: Restricted, to be used ONLY for Test Aircraft 1 & 2.

Note-2: This configuration can not be used if Mag Heading Synchro, table 5.2.6-24, is required. This is due to a conflict with Attitude #2 Valid and Magnetic Heading Valid.

Note-3: This Attitude/Accel type should not be used in combination with Aircraft types 6, 11, or 14 from table 5.2.1 prior to -204 -204.

Note-4: This table is designed to be used with Category 6, ID 95 and ID 97.

Note-5: Intended for use with Terrain Display Type 45 and 46 (ProLine 21) and dual IOC buses in Categories 2, 3, 5, 6.

Table 5.2.4-0: Attitude / Acceleration Input Select #0

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA		
Pitch #1	(X) = J2-K01 (Y) = J2-K02 (Z) = J2-K03	6.3.4.1.3	Format: 3 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: PITCH Validity: Attitude #1 Valid (+28V)		
Roll #1	(X) = J2-K13 (Y) = J2-K14 (Z) = J2-K15	6.3.4.1.4	Format: 3 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: ROLL Validity: Attitude #1 Valid (+28V)		
Longitudinal Acceleration	(+) =J2-H14 (-) = J2-H15	6.3.4.2.1	Format: DC Input Type: Windshear Fault Designation: LONGITUDINAL ACCELERATION		
Normal Acceleration	(+) =J2-H12 (-) = J2-H13	6.3.4.2.2	Format: DC Input Type: Windshear Fault Designation: NORMAL ACCELERATION		
			Accelerometer Self Test Initiation Output Disable BIAX Self Test		
PIN FUNCTION	**CONNECTION**	**PIN TYPE**	**CHANNEL DESIGNATION REFERENCE**	**Polarity/Configuration**	**Summary Data**
Attitude #1 Valid (+28V)	J2-K11	Input	28v Disc 09	+28V = Valid 0V = Not Valid	

Table 5.2.4-1: Attitude / Acceleration Input Select #1

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA		
Pitch #1	(X) = J2-K01 (Y) = J2-K02 (Z) = J2-K03	6.3.4.1.3	Format: 3 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: PITCH Validity: Attitude #1 Valid (+28V)		
Roll #1	(X) = J2-K13 (Y) = J2-K14 (Z) = J2-K15	6.3.4.1.4	Format: 3 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: ROLL Validity: Attitude #1 Valid (+28V)		
Longitudinal Acceleration (ASA BIAX)	(+) =J2-H14 (-) = J2-H15	6.3.4.2.1	Format: DC Input Type: Windshear Fault Designation: LONGITUDINAL ACCELERATION		
Normal Acceleration (ASA BIAX)	(+) =J2-H12 (-) = J2-H13	6.3.4.2.2	Format: DC Input Type: Windshear Fault Designation: NORMAL ACCELERATION		
ASA BIAX	J2-K10	4.2.19	**Accelerometer Self Test Initiation Output** Scale Factor: 0V = NORMAL/+ => 6V/- =< -6V Output Type: Windshear Enable BIAX Self Test		
PIN FUNCTION	**CONNECTION**	**PIN TYPE**	**CHANNEL DESIGNATION REFERENCE**	**Polarity/Configuration**	**Summary Data**
Attitude #1 Valid (+28V)	J2-K11	Input	28v Disc 09	+28V = Valid 0V = Not Valid	

Table 5.2.4-2: Attitude / Acceleration Input Select #2

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Pitch #1	CHANNEL (X) = J2-K01 (Y) = J2-K02 (Z) = J2-K03	6.3.4.1.3	Format: 3 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: PITCH Validity: Attitude #1 Valid (+28V)
Roll #1	(X) = J2-K13 (Y) = J2-K14 (Z) = J2-K15	6.3.4.1.4	Format: 3 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: ROLL Validity: Attitude #1 Valid (+28V)
Longitudinal Acceleration	(+) =J2-H14 (-) = J2-H15	6.3.4.2.3	Format: DC with Validity Flag Input Type: Windshear Fault Designation: LONGITUDINAL ACCELERATION Validity: Accel Long Valid (+28V)
Normal Acceleration	(+) =J2-H12 (-) = J2-H13	6.3.4.2.4	Format: DC with Validity Flag Input Type: Windshear Fault Designation: NORMAL ACCELERATION Validity: Accel Norm Valid (+28V)
			Accelerometer Self Test Initiation Output Disable BIAX Self Test

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Attitude #1 Valid (+28V)	J2-K11	Input	28v Disc 09	+28V = Valid 0V = Not Valid	
Accel Long Valid (+28V)	J2-D11	Input	28v Disc 08	+28V = Valid 0V = Not Valid	
Accel Norm Valid (+28V)	J2-G03	Input	28v Disc 03	+28V = Valid 0V = Not Valid	
Accel Self Test in Progress (+28V)	J2-D12,	Input	28v Disc 10	+28V = Accel Self Test Active 0V= Not Active	**Accelerometer Self Test Input** Enable Accelerometer Self Test hold logic when signal is active

Table 5.2.4-3: Attitude / Acceleration Input Select #3

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Pitch #1 (DC Input)	(+) = J2-K01 (-) = J2-K03	6.3.4.1.1	Format: DC Input Type: Basic Fault Designation: PITCH Validity: Attitude #1 Valid (+28V)
Roll #1 (DC Input)	(+) = J2-K13 (-) = J2- K15	6.3.4.1.2	Format: DC Input Type: Basic Fault Designation: ROLL Validity: Attitude #1 Valid (+28V)
Long Acceleration (DC input)	(+) =J2-H14 (-) = J2-H15	6.3.4.2.1	Format: DC Input Type: Windshear Fault Designation: LONGITUDINAL ACCELERATION
Normal Acceleration (DC input)	(+) =J2-H12 (-) = J2-H13	6.3.4.2.2	Format: DC Input Type: Windshear Fault Designation: NORMAL ACCELERATION
			Accelerometer Self Test Initiation Output Disable BIAX Self Test

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Attitude #1 Valid (+28V)	J2-K11	Input	28v Disc 09	+28V = Valid 0V = Not Valid	

Table 5.2.4-4: Attitude / Acceleration Input Select #4

CHANNEL RX429-6	CONNECT TO: IRU #1 (Hi-Speed)		Fault Designation: IRS BUS 1 Bus Type: Basic					
	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
A = J1A-22 B = J1A-23	Attitude Mode (Note 1)	6.1.4.1.1	270	bit 12	n/a	Basic	n/a	250-500
	Pitch Angle	6.1.4.1.2	324	14	±180 degrees	Basic	0.010986328125	10-20
	Roll Angle	6.1.4.1.5	325	14	±180 degrees	Basic	0.010986328125	10-20
	Body Pitch Rate #1	6.1.4.1.4	326	13	±128 deg/sec	Basic	0.01562500	10-20
	Body Long Accel	6.1.4.2.1	331	12	±4 g	W/S	0.0009765625	10-20
	Body Normal Accel	6.1.4.2.2	333	12	±4 g	W/S	0.0009765625	10-20

Note 1: a “1” in Bit Position 12 indicates that the IRS is operating in “ATTITUDE MODE”

Table 5.2.4-5: Attitude / Acceleration Input Select #5

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Pitch #1	(X) = J2-K01 (Y) = J2-K02 (Z) = J2-K03	6.3.4.1.3	Format: 3 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: PITCH Validity: Attitude #1 Valid (+28V)
Roll #1	(X) = J2-K13 (Y) = J2-K14 (Z) = J2-K15	6.3.4.1.4	Format: 3 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: ROLL Validity: Attitude #1 Valid (+28V)
Longitudinal Acceleration	NO CONNECTION		NO ACCELERATION DATA
Normal Acceleration	NO CONNECTION		NO ACCELERATION DATA

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Attitude #1 Valid (+28V)	J2-K11	Input	28v Disc 09	+28V = Valid 0V = Not Valid	

Table 5.2.4-6: Attitude / Acceleration Input Select #6

CHANNEL RX429-4	CONNECT TO: IRU or INS (Hi-Speed)		Fault Designation: IRS BUS 1 Bus Type: Basic					
A = J1A-11 B = J1A-12	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Attitude Mode (Note 1)	6.1.4.1.1	270	bit 12	n/a	Basic	n/a	250-500
	Pitch Angle	6.1.4.1.2	324	14	±180 degrees	Basic	0.010986328125	10-20
	Roll Angle	6.1.4.1.5	325	14	±180 degrees	Basic	0.010986328125	10-20
	Body Roll Rate #1	6.1.4.1.8	327	13	±128 deg/sec	Basic	0.01562500	10-20
	Body Pitch Rate #1	6.1.4.1.4	326	13	±128 deg/sec	Basic	0.01562500	10-20
	Body Long Accel	6.1.4.2.1	331	12	±4 g	W/S	0.0009765625	10-20
	Body Normal Accel	6.1.4.2.2	333	12	±4 g	W/S	0.0009765625	10-20

Note 1: a “1” in Bit Position 12 indicates that the system is operating in “ATTITUDE MODE”

Table 5.2.4-7: Attitude / Acceleration Input Select #7

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA		
Pitch #1	(X) = J2-K01 (Y) = J2-K02 (Z) = J2-K03	6.3.4.1.3	Format: 3 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: PITCH 1 Validity: Attitude #1 Valid (+28V)		
Roll #1	(X) = J2-K13 (Y) = J2-K14 (Z) = J2-K15	6.3.4.1.4	Format: 3 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: ROLL 1 Validity: Attitude #1 Valid (+28V)		
Pitch #2	(X) = J2-D14 (Y) = J2-D13 (Z) = J2-D15	6.3.4.1.3	Format: 3 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: PITCH 2 Validity: Attitude #2 Valid (+28V)		
Roll #2	(X) = J2-E02 (Y) = J2-E01 (Z) = J2-E03	6.3.4.1.4	Format: 3 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: ROLL 2 Validity: Attitude #2 Valid (+28V)		
Longitudinal Acceleration (ASA BIAX)	(+) =J2-H14 (-) = J2-H15	6.3.4.2.1	Format: DC Input Type: Windshear Fault Designation: LONGITUDINAL ACCELERATION		
Normal Acceleration (ASA BIAX)	(+) =J2-H12 (-) = J2-H13	6.3.4.2.2	Format: DC Input Type: Windshear Fault Designation: NORMAL ACCELERATION		
ASA BIAX	J2-K10	4.2.19	**Accelerometer Self Test Initiation Output** Scale Factor: 0V = NORMAL/+ => 6V/- =< -6V Output Type: Windshear Enable BIAX Self Test		
PIN FUNCTION	**CONNECTION**	**PIN TYPE**	**CHANNEL DESIGNATION REFERENCE**	**Polarity/Configuration**	**Summary Data**
Attitude #1 Valid (+28V)	J2-K11	Input	28v Disc 09	+28V = Valid 0V = Not Valid	
Attitude #2 Valid (+28V)	J2-D04	Input	28v Disc 04	+28V = Valid 0V = Not Valid	

Table 5.2.4-8: Attitude / Acceleration Input Select #8

CHANNEL RX429-4	CONNECT TO: IRU, INS or AHRS (Hi-Speed)		Fault Designation: IRS BUS 1 Bus Type: Basic					
A = J1A-11 B = J1A-12	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Pitch Angle	6.1.4.1.2	324	14	±180 degrees	Basic	0.010986328125	10-20
	Roll Angle	6.1.4.1.5	325	14	±180 degrees	Basic	0.010986328125	10-20
	Body Pitch Rate	6.1.4.1.4	326	13	±128 deg/sec	Basic	0.01562500	10-20

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Longitudinal Acceleration (ASA BIAX)	(+) =J2-H14 (-) = J2-H15	6.3.4.2.1	Format: DC Input Type: Windshear Fault Designation: LONGITUDINAL ACCELERATION
Normal Acceleration (ASA BIAX)	(+) =J2-H12 (-) = J2-H13	6.3.4.2.2	Format: DC Input Type: Windshear Fault Designation: NORMAL ACCELERATION
ASA BIAX	J2-K10	4.2.19	**Accelerometer Self Test Initiation Output** Scale Factor: 0V = NORMAL/+ => 6V/- =< -6V Output Type: Windshear **Enable BIAX Self Test**

Table 5.2.4-9: Attitude / Acceleration Input Select #9

CHANNEL RX429-4	CONNECT TO: IRU (Hi-Speed)		Fault Designation: IRS BUS 1 Bus Type: Basic					
A = J1A-11 B = J1A-12	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Attitude Mode (Note 1)	6.1.4.1.1	270	bit 12	n/a	Basic	n/a	250-500
	Pitch Angle	6.1.4.1.2	324	14	±180 degrees	Basic	0.010986328125	10-20
	Roll Angle	6.1.4.1.5	325	14	±180 degrees	Basic	0.010986328125	10-20
	Body Pitch Rate #1	6.1.4.1.4	326	13	±128 deg/sec	Basic	0.01562500	10-20
CHANNEL RX429-5	**CONNECT TO: FMS #1 (Hi-Speed)**		**Fault Designation: FMC BUS 1 Bus Type: Basic NOTE: Used for secondary attitude data source.**					
A = J1A-17 B = J1A-18	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Pitch Angle	6.1.4.1.2	324	14	±180 degrees	Basic	0.010986328125	10-20
	Roll Angle	6.1.4.1.5	325	14	±180 degrees	Basic	0.010986328125	10-20

Note 1: a "1" in Bit Position 12 indicates that the system is operating in "ATTITUDE MODE"

Table 5.2.4-10: Attitude / Acceleration Input Select #10

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Pitch #1	(X) = J2-K01 (Y) = J2-K02 (Z) = J2-K03	6.3.4.1.3	Format: 3 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: PITCH Validity: Attitude #1 Valid (+28V)
Roll #1	(X) = J2-K13 (Y) = J2-K14 (Z) = J2-K15	6.3.4.1.4	Format: 3 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: ROLL Validity: Attitude #1 Valid (+28V)
Longitudinal Acceleration (L1011)	(+) =J2-H14 (-) = J2-H15	6.3.4.2.5	Format: DC Input Type: Windshear Fault Designation: LONGITUDINAL ACCELERATION
Normal Acceleration (L1011)	(+) =J2-H12 (-) = J2-H13	6.3.4.2.6	Format: DC Input Type: Windshear Fault Designation: NORMAL ACCELERATION

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Attitude #1 Valid (+28V)	J2-K11	Input	28v Disc 09	+28V = Valid 0V = Not Valid	

Table 5.2.4-11: Attitude / Acceleration Input Select #11

CHANNEL RX429-6	**CONNECT TO: IRU #1 (Hi-Speed)**		**Fault Designation: IRS BUS 1 Bus Type: Basic**					
A = J1A-22	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J1A-23	Attitude Mode (Note 1)	6.1.4.1.1	270	bit 12	n/a	Basic	n/a	250-500
	Pitch Angle	6.1.4.1.2	324	14	±180 degrees	Basic	0.010986328125	10-20
	Roll Angle	6.1.4.1.5	325	14	±180 degrees	Basic	0.010986328125	10-20
	Body Pitch Rate #1	6.1.4.1.4	326	13	±128 deg/sec	Basic	0.01562500	10-20
	Body Long Accel	6.1.4.2.1	331	12	±4 g	W/S	0.0009765625	10-20
	Body Normal Accel	6.1.4.2.2	333	12	±4 g	W/S	0.0009765625	10-20
CHANNEL RX429-4	**CONNECT TO: IRU #2 (Hi-Speed)**		**Fault Designation: IRS BUS 2 Bus Type: Basic**					
A = J1A-11	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J1A-12	Attitude Mode (Note 1)	6.1.4.1.1	270	bit 12	n/a	Basic	n/a	250-500
	Pitch Angle	6.1.4.1.2	324	14	±180 degrees	Basic	0.010986328125	10-20
	Roll Angle	6.1.4.1.5	325	14	±180 degrees	Basic	0.010986328125	10-20
	Body Pitch Rate #1	6.1.4.1.4	326	13	±128 deg/sec	Basic	0.01562500	10-20
	Body Long Accel	6.1.4.2.1	331	12	±4 g	W/S	0.0009765625	10-20
	Body Normal Accel	6.1.4.2.2	333	12	±4 g	W/S	0.0009765625	10-20

Note 1: A "1" in Bit Position 12 indicates that the IRS is operating in "ATTITUDE MODE"

Note 2: This table is used with tables 5.2.6-36 and 5.2.6-37 in ID 95 and ID 97 of table 5.2.6.

Table 5.2.4-12: Attitude / Acceleration Input Select #12

CHANNEL RX429-16	**CONNECT TO: IOC-1 (Hi-Speed) L-IOC (L-GP-5) Format: ARINC 429**		**Fault Designation: IOC BUS 1 Bus Type: Basic**					
A = J2-C13	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-C14	Pitch Angle	6.1.4.1.2	324	14	±180 degrees	Basic	0.010986328125	10-20
	Roll Angle	6.1.4.1.5	325	14	±180 degrees	Basic	0.010986328125	10-20
	Body Long Accel	6.1.4.2.1	331	12	±4 g	W/S	0.0009765625	10-20
	Body Normal Accel	6.1.4.2.2	333	12	±4 g	W/S	0.0009765625	10-20
	Body Pitch Rate	6.1.4.1.4	326	13	±128 deg/sec	W/S	0.015625	10-20
CHANNEL RX429-17	**CONNECT TO: IOC-2 (Hi-Speed) R-IOC (R-GP-5) Format: ARINC 429**		**Fault Designation: IOC BUS 2 Bus Type: Basic**					
A = J2-B14	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-B15	Pitch Angle	6.1.4.1.2	324	14	±180 degrees	Basic	0.010986328125	10-20
	Roll Angle	6.1.4.1.5	325	14	±180 degrees	Basic	0.010986328125	10-20
	Body Long Accel	6.1.4.2.1	331	12	±4 g	W/S	0.0009765625	10-20
	Body Normal Accel	6.1.4.2.2	333	12	±4 g	W/S	0.0009765625	10-20
	Body Pitch Rate	6.1.4.1.4	326	13	±128 deg/sec	W/S	0.015625	10-20

5.2.5 Category 5, Navigation Inputs/Simulator Reposition Enable Reversal Select(Ppin 17, Ppin 9)

Document Revision History, Section 5.2.5

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/17/97 - A Loos	All	Clarified validity connection and states, add ILS Tuned Discrete to category tables.	202	202
11/20/97 - A Loos	All	Add words to describe scope of category. Add effectivity to table 5.2.5	202	202
03/09/98 – B. Breen	Tables 5.2.5, 5.2.5-2	SCR 2590: Added dual ILS with alt GSCAN for BA	204	204
05/01/98 - S. Gagnon	Tables 5.2.5	Added new Revised 5.2.5, added to note definition.	204	204
06/02/98 - N.F. Menzies	Tables 5.2.5, 5.2.5-3	SCR 2796: Added Single analog GS/LOC with alt GSCAN for BA.	future	future
06/23/98 – N Paterson	Tables 5.2.5, 5.2.5-4	SCR 2877: Added Dual analog GS/LOC with standard GSCAN for Navy C-9B.	206	206
08/03/98 – N.F. Menzies	Table 5.2.5	SCR 2796: ID 3, Effectivity, replaced “future” with “206”.	206	206
07/31/98 – P. Buller	Table 5.2.5 Table 5.2.5-5.	SCR 3028: Added Single Digital 429 GS/LOC but without label 017 (Sel Rwy Hdg).	206	206
08/19/98 – MJC	5.2.5	Added reference section numbers to the configuration data part of each table.	-	-
09/17/98 – L. Caldeira	All	Fixed tracing, which had many typos.	-	-
30-Oct-98 – N Paterson	Table 5.2.5-2 Table 5.2.5-4	SCR 3272: Added ILS Tuned Gnd Discretes 1 and 2 to Tables 5.2.5-2 and 5.2.5-4.	208	208
11/18/98 – A. Anderson	Table 5.2.5 Table 5.2.5-6	SCR 3242: Added ID 6 to table 5.2.5. Added table 5.2.5-6 for C-141.	208	208
12/2/98 – A. Anderson	Table 5.2.5-6	SCR 3242: Corrected Selected Runway Heading Reference number.	208	208
07/DEC/98 – R. Foster	Table 5.2.5 Table 5.2.5-7	SCR 3318: Add ID 7 to table 5.2.5. Add Table 5.2.5-7 for DHC-8.	208	208
05/JAN/99 – MJC	5.2.5	Reserved ID #8 for future applications.	-	-
18-FEB-99 - NSP	Table 5.2.5 Table 5.2.5-6	SCR 3242: Changed Standard GS Cancel to Alternate GS Cancel.	208	208
07-APR-99 – MJC	5.2.5-8	SCR 3739: Activated ID #8.	-210	-210
19-MAY-99 B Osada	5.2.5-8	SCR 3891: Tracing fix only. Fixed tracing to ID 8.		
10-JUN-99 – A Loos	Table 5.2.5 Table 5.2.5-9	SCR 3955: Add new ID #9 with Single Channel Analog, Low Level Validity	future	future
14-JUN-99 – A Loos	Table 5.2.5-9	SCR 3955: Revised Low Level Validity fault designation.	future	future
6-DEC-1999 – D. Gibson	Table 5.2.5 Table 5.2.5-9	SCR 3955: In the Navigation Inputs Select table (table 5.2.5) for ID #9, remove “future and replaced with “212” for App. and Cfg columns. Removed “future” from traceability for table 5.2.5-9	212	212
14-DEC-99 – A Loos	Table 5.2.5	SCR 3955: Changed description of ID 9 from “Standard” to “Alternate” for G/S Cancel. Match implementation in 5.2.5.-9		
14-DEC-1999 – D. Gibson	Table 5.2.5 Table 5.2.5-9	SCR 3955: Removed audit trail reference to SCR 3956	212	212
15-FEB-00 – A Loos	Tables 5.2.5-2, 5.2.5-4	Add footnote 1 to ID 2 and 4	-	-

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
17-MAR-00 – S. Arnett	Table 5.2.5 Table 5.2.5-10	SCR 4939: Added new ID #10 for Single Digital KN40 interface.	212	212
02-JUN-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
17-AUG-00 – L. Caldeira	5.2.5	SCR 5241: Tracing only. Removed 5.2.5 tracing.	-	-
16-FEB-01 – S. Wright	All Analog inputs	SCR 5809: doc only – added directions (up, dn) to glideslope pins J1B-31 and J1B-32.	213	213
05-SEP-01 – J. Harris	All Table 5.2.5	SCR 4871: Added Pitch Alert to title & scope. SCR 4871: Added Pitch Alert enable. Added room for another FUTURE Option. Left space for up to 25 total Navigation Input Selection possibilities.	214	214
06-OCT-01 – G. Ostrom	Table 5.2.5	SCR 4871: Added new tracing for IDs 25 thru 35.	214	214
15-OCT-01 – G. Ostrom	Table 5.2.5	SCR 4871: Renumbered Pitch Alert enable true IDs 40 thru 50 and updated tracing.	214	214
28-NOV-01 – N Paterson	All	SCR 6053: General cleanup.		
	Table 5.2.5	SCR 6525: Added traceability		
14-DEC-01 – N Paterson	Table 5.2.5	SCR 6609: Deleted ID 11 thru 99	214	214
17-DEC-01 – S Hoglund	All	SCR 6609: Copied to a blank file and re-checked in (no net changes – doing this to fix tracing errors from UNDO buffer)	214	214
26-FEB-02 – S.G.H.Bhatta	Table 5.2.5	SCR 3181: Added Simulator Reposition Enable to title & scope. Replaced 'Future 'column in the Table 5.2.5 by 'Simulator Reposition Enable'. Additional IDs 25 through 35 created. Added two notes Note-2 and Note-3 below table 5.2.5	216	216
01-MAR-02 – A. Dahlgren	Note 3	SCR 3181: Clarified Note 3.	216	216
18-MAR-02–S.G.H.Bhatta	5.2.5 Title, scope & Table 5.2.5	SCR 3181: 'Simulator Reposition Enable' is replaced by 'Simulator Reposition Enable Reversal' in title, scope and in Table 5.2.5. Note –2 and Note-3 below Table 5.2.5 modified.	216	216
06-MAY-02 – N Menzies	Table 5.2.5 note 2.	SCR 6871: Updated note 2 Navigation Input Select range to 36-49.	216	216
07-APR-04 – Gill	Table 5.2.5	SCR 7947: Document Only. Revised Note 1 and added Note 1 to ID 6.	-	-
16-APR-04 – Gill	Table 5.2.5	SCR 7947: Document Only. Revised tracing before Table 5.2.5	-	-
10-MAR-06 – M. Calhoun	Table 5.2.5	SCR 8201: Doc only change to add note 1 to ID 31 and correct list of IDs in item 3 of Note 1.	-	-
11-APR-06 G. Burlingame	Table 5.2.5	SCR 8207: Doc only change to correct list of IDs in item 2 of Note 1.	-	-
25-MAY-06 – A. Lowe	Table 5.2.5 New Table 5.2.5-11	SCR 8686: Added new ID 11 and 36 and Note 4 to Table 5.2.5. Added new table 5.2.5-11.	226	226
31-MAY-06 – R. Gharpure	Table 5.2.5 New Table 5.2.5-12	SCR 8266: Added new ID 12 and 37, updated Note-2. Added new table 5.2.5-12. Fixed tracing for 5.2.5-11 & 5.2.5-36.	226	226
01-JUN-06 – A. Lowe	Table 5.2.5 Table 5.2.5-11	SCR 8686: Updated Table 5.2.5, Note 4 to include 'Terrain Display Type 46' and category 6. Updated Table 5.2.5-11 to include 'Format: ARINC 429'.	226	226
06-JUN-06 – R. Gharpure	Table 5.2.5 New Table 5.2.5-13	SCR 8376: Added new ID 13 and 38, updated Note-2 and added Note-5. Added new table 5.2.5-13.	226	226

23-AUG-06 – W. Goo	Table 5.2.5-0 through Table 5.2.5-13	SCR 8760: (Doc only) In Reference Section changed from "ICD section 6.4.1.18" to "ICD Section 6.4.18".	226	226
06-MAR-07 – E. Wilmot	Table 5.2.5 and New Table 5.2.5-14	SCR 8962: Table 5.2.5 - Added new IDs 14 and 39, and updated Note-2. Added new table 5.2.5-14	228	228
09-MAR-07 – J. Kistler	Table 5.2.5 and New Table 5.2.5-14	SCR 8962: Table 5.2.5 – Added Note 6. Updated IDs 14 and 39 to reference Note 6. Updated requirement trace in table 5.2.5-14.	228	228
27-MAR-07 – L. Caldeira	Table 5.2.5	SCR 8962: Added hidden tracing to new table line 5.2.5-39 – comment only change.	228	228

The following table provides identification of the Navigation source and Simulator Reposition Enable Reversal select. Each entry in the ***Navigation Inputs Select*** column has a corresponding table that provides detailed information on the configuration. For example the details for Navigation Inputs Select #0 are found in Table 5.2.5-0.

In this category, only the following signals are to be defined:

- Glideslope Deviation, with analog or ARINC 429 format, and associated validity and selection.
- Localizer Deviation, analog or ARINC 429 format, and associated validity.
- Selected Runway Heading, ARINC 429 format only, redundant source.

In cases where the above signals are on an ARINC 429 bus with other signals, you may:

- In the other categories select the same bus with the **same Fault Designation name and Channel** connection as this category. In this case a single physical bus with a single connection satisfies more than one category, or;

- In the other categories select a **different bus Fault Designation name and Channel** connection and wire the connections to the same source (if loading permits). Note: In this case a single physical bus failure will result in multiple bus names being faulted in the MK VII EGPWS Self Test. In this case a single physical bus with multiple connections satisfies more than one category.

TABLE 5.2.5: NAVIGATION INPUTS SELECT/SIMULATOR REPOSITION ENABLE.(PPIN 17, PPIN 9)

ID	PP 17 State (J2-B1)	PP 9 State (J2-A15)	Simulator Reposition Enable Reversal (Note-3)	Navigation Inputs Select (Table 5.2.5-xx)	Description	Effectivity App.	Effectivity Cfg.
0	1	1	False	0	Single Analog GS/Loc – Standard GS Cancel	202	202
1	1	2	False	1 **(Note-1)**	Single Digital 429 GS/Loc – Standard GS Cancel	202	202
2	1	3	False	2	Dual Analog GS/Loc – Alternate GS Cancel	204	204
3	1	4	False	3	Single Analog GS/Loc – Alternate GS Cancel	206	206
4	1	5	False	4	Dual Analog GS/Loc – Standard GS Cancel	206	206
5	1	6	False	5 **(Note-1)**	Single Digital 429 GS/LOC (label 173/174) – Std GS Cancel	206	206
6	1	7	False	6 **(Note-1)**	Dual Analog GS/Loc – Alternate GS Cancel – Dual FMS 429 Selected Runway Heading	208	208
7	1	8	False	7	Dual Analog GS/Loc – Standard GS Cancel – Single FMS 429 Selected Runway Heading	208	208
8	1	9	False	8	Dual Analog GS/Loc – Standard GS Cancel – Visual Suppress Selected	210	210
9	1	10	False	9	Single Analog GS/Loc – Alternate GS Cancel – Low Level Validity	212	212
10	2	1	False	10 **(Note-1)**	Single Digital 429 KN40 GS/Loc – Standard GS Cancel	212	212
11	2	2	False	11 **(Note-4)**	Digital ARINC 429 via dual Collins IOC buses	226	226
12	2	3	False	12	Single Analog GS/Loc – Standard GS Cancel – Low Level Validity	226	226
13	2	4	False	13 **(Note-1 & Note-5)**	Dual Digital 429 GS/LOC (label 173/174) – Standard GS Cancel	226	226
14	2	5	False	14 **(Note-6)**	Single Digital 429 GS/LOC (label 173/174) – Std GS Cancel	228	228
15-24	-	-	Invalid	Future**(Note-2)**	-	-	-
25	3	6	True	0	Single Analog GS/Loc – Standard GS Cancel	216	216
26	3	7	True	1 **(Note-1)**	Single Digital 429 GS/Loc – Standard GS Cancel	216	216
27	3	8	True	2	Dual Analog GS/Loc – Alternate GS Cancel	216	216
28	3	9	True	3	Single Analog GS/Loc – Alternate GS Cancel	216	216
29	3	10	True	4	Dual Analog GS/Loc – Standard GS Cancel	216	216
30	4	1	True	5 **(Note-1)**	Single Digital 429 GS/LOC (label 173/174) – Std GS Cancel	216	216
31	4	2	True	6 **(Note-1)**	Dual Analog GS/Loc – Alternate GS Cancel – Dual FMS 429 Selected Runway Heading	216	216
32	4	3	True	7	Dual Analog GS/Loc – Standard GS Cancel – Single FMS 429 Selected Runway Heading	216	216
33	4	4	True	8	Dual Analog GS/Loc – Standard GS Cancel – Visual Suppress Selected	216	216
34	4	5	True	9	Single Analog GS/Loc – Alternate GS Cancel – Low Level Validity	216	216

ID	PP 17 State (J2-B1)	PP 9 State (J2-A15)	Simulator Reposition Enable Reversal (Note-3)	Navigation Inputs Select (Table 5.2.5-xx)	Description	Effectivity App.	Effectivity Cfg.
35	4	6	True	10 **(Note-1)**	Single Digital 429 KN40 GS/Loc – Standard GS Cancel	216	216
36	4	7	True	11**(Note-4)**	Digital ARINC 429 via dual Collins IOC buses	226	226
37	4	8	True	12	Single Analog GS/Loc – Standard GS Cancel – Low Level Validity	226	226
38	4	9	True	13 **(Note-1 & Note-5)**	Dual Digital 429 GS/LOC (label 173/174) – Standard GS Cancel	226	226
39	4	10	True	14 **(Note-6)**	Single Digital 429 GS/LOC (label 173/174) – Std GS Cancel	228	228
40-99	-	-	Invalid	Future**(Note-2)**	-	-	-

Note-1: This configuration can not be used with any other input using Channel RX429-2. This includes the following:

1) **Category 2 Radio Altitude ID 7 (there is a conflict between the ARINC 429 channel definitions)**
2) **Category 3 Air Data ID's 3, 14 (there is a conflict between the ARINC 429 channel definitions).**
3) **Category 6 Position ID's 18, 25, 29, 46, 47, 72, 73, 80, 81, 84, 86, 92, 93, 95, 96, 97 (there is a conflict between the ARINC 429 channel definitions).**

Note-2: If IDs are updated (in future) in the range of 15-24, corresponding IDs in the range of 40-49 are also to be updated. Only difference will be, Simulator Reposition Enable Reversal will be set to false in the range 15-24 where as it will be set to true in the range from 40 to 49.

Note-3: Simulator Reposition Enable Reversal provides the ability to reverse the Simulator Reposition Enable operation configured in Category 1 (Aircraft Type category).

Note-4: Nav Input Select 11 Intended for use with Terrain Display ID 45 and 46 (ProLine 21) and dual IOC buses in Categories 2, 3, 4, 6.

Note-5: This configuration can not be used with any other input using Channel RX429-1. This includes the following:

1) **Category 1 Aircraft Type ID's 1, 2 (there is a conflict between the ARINC 429 channel definitions).**
2) **Category 2 Radio Altitude ID 7 (there is a conflict between the ARINC 429 channel definitions).**
3) **Category 3 Air Data ID's 2, 12, 15, 22, 23, 26, 28 (there is a conflict between the ARINC 429 channel definitions).**
4) **Category 6 Position ID 29 (there is a conflict between the ARINC 429 channel definitions).**
5) **Category 16 Optional Input Selection ID 1 (there is a conflict between the ARINC 429 channel definitions).**

Note-6: This configuration can not be used with any other input using Channel RX429-5. This includes the following:

1) **Category 3 Air Data ID's 14, 27 (there is a conflict between the ARINC 429 channel definitions).**
2) **Category 4 Attitude/ Accel Select and Flashing Lamp ID's 18, 19 (there is a conflict between the ARINC 429 channel definitions).**
3) **Category 6 Position ID 0, 3 – 8, 20 – 23, 46, 47, 50 – 69, 72, 73, 80, 81, 84, 86, 87, 91, 92, 94-97 (there is a conflict between the ARINC 429 channel definitions).**
4) **Category 16 Optional Input Selection ID 5 (there is a conflict between the ARINC 429 channel definitions).**

Table 5.2.5-0: Navigation Input Select #0

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Glideslope	(+) = J1B-31 (Up) (-) = J1B-32 (Dn)	6.3.5.1	Format: ARINC 547 with Validity Flag or Low Level Validity & ILS Select Input Type: Basic Fault Designation: GLIDESLOPE Validity: Glideslope Valid Discrete #1 (+28V)
Localizer	(+) = J2-H04 (-) = J2-H05	6.3.5.2	Format: ARINC 578-4 with Validity Flag Input Type: Basic Fault Designation: LOCALIZER Validity: Localizer Valid Discrete #1 (+28V)

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Glideslope Valid Discrete #1 (+28V)	J1B-26	Input	28v Disc 15	+28V = Valid 0V = Not Valid	
Localizer Valid Discrete #1 (+28V)	J2-E15	Input	28v Disc 17	+28V = Valid 0V = Not Valid	
ILS Tuned Discrete #1 (+28V)	J1B-01	Input	28v Disc 22	+28V = ILS Selected 0V = Not ILS Selected	
ILS Tuned Discrete #1 (Gnd)	J1A-03	Input	Gnd Disc 28	Gnd = ILS Selected Open = Not ILS Selected	

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Suppress Audio Only	ICD section 6.4.18
Glideslope Cancel Type	Standard Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	False	Not used

Table 5.2.5-1: Navigation Input Select #1

CHANNEL RX429-2	CONNECT TO: ILS #1 (low speed)		Fault Designation: ILS BUS Bus Type: Basic					
A = J2-C08 B = J2-C09	Data Localizer Glideslope Selected Runway Heading	Reference 6.1.5.2 6.1.5.1 6.1.6.28	Label 173 174 017	Sig. Bits 12 12 15 BCD	Range ± 0.4 DDM ± 0.8 DDM 0-359 Deg	Signal Type Basic Basic Basic	Resolution 0.00009765625 0.0001953125 0.1	Rate (ms) 33.3 -66.6 33.3-66.6 100-200

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Suppress Audio Only	ICD section 6.4.18
Glideslope Cancel Type	Standard Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	N/A	Not used

Table 5.2.5-2: Navigation Input Select #2

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Glideslope #1	(+) = J1B-31 (Up) (-) = J1B-32 (Dn)	6.3.5.1	Format: ARINC 547 with Validity Flag or Low Level Validity & ILS Select Input Type: Basic Fault Designation: GLIDESLOPE Validity: Glideslope Valid Discrete #1 (+28V)
Localizer #1	(+) = J2-H04 (-) = J2-H05	6.3.5.2	Format: ARINC 578-4 with Validity Flag Input Type: Basic Fault Designation: LOCALIZER Validity: Localizer Valid Discrete #1 (+28V)
Glideslope #2	(+) = J2-F10 (Up) (-) = J2-F11 (Dn)	6.3.5.1	Format: ARINC 547 with Validity Flag or Low Level Validity & ILS Select Input Type: Basic Fault Designation: GLIDESLOPE Validity: Glideslope Valid Discrete #2 (+28V)
Localizer #2	(+) = J2-J11 (-) = J2-J12	6.3.5.2	Format: ARINC 578-4 with Validity Flag Input Type: Basic Fault Designation: LOCALIZER Validity: Localizer Valid Discrete #2 (+28V)

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Glideslope Valid Discrete #1 (+28V)	J1B-26	Input	28v Disc 15	+28V = Valid 0V = Not Valid	
Localizer Valid Discrete #1 (+28V)	J2-E15	Input	28v Disc 17	+28V = Valid 0V = Not Valid	
Glideslope Valid Discrete #2 (+28V)	J2-G02	Input	28v Disc 02	+28V = Valid 0V = Not Valid	
Localizer Valid Discrete #2 (+28V)	J2-K12	Input	28v Disc 12	+28V = Valid 0V = Not Valid	
ILS Tuned Discrete #1 (+28V)	J1B-01	Input	28v Disc 22	+28V = ILS Selected 0V = Not ILS Selected	
ILS Tuned Discrete #2 (+28V)	J2-F12	Input	28v Disc 11	+28V = ILS Selected 0V = Not ILS Selected	
ILS Tuned Discrete #1 (Gnd) [1]	J1A-03	Input	Gnd Disc 28	Gnd = ILS Selected Open = Not ILS Selected	
ILS Tuned Discrete #2 (Gnd) [1]	J2-F13	Input	Gnd Disc 26	Gnd = ILS Selected Open = Not ILS Selected	

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Suppress Audio Only	ICD section 6.4.18
Glideslope Cancel Type	Alternate Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	False	Not used

[1] **Not available prior to –208-208**

Table 5.2.5-3: Navigation Input Select #3

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Glideslope	(+) = J1B-31 (Up) (-) = J1B-32 (Dn)	6.3.5.1	Format: ARINC 547 with Validity Flag or Low Level Validity & ILS Select Input Type: Basic Fault Designation: GLIDESLOPE Validity: Glideslope Valid Discrete #1 (+28V)
Localizer	(+) = J2-H04 (-) = J2-H05	6.3.5.2	Format: ARINC 578-4 with Validity Flag Input Type: Basic Fault Designation: LOCALIZER Validity: Localizer Valid Discrete #1 (+28V)

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Glideslope Valid Discrete #1 (+28V)	J1B-26	Input	28v Disc 15	+28V = Valid 0V = Not Valid	
Localizer Valid Discrete #1 (+28V)	J2-E15	Input	28v Disc 17	+28V = Valid 0V = Not Valid	
ILS Tuned Discrete #1 (+28V)	J1B-01	Input	28v Disc 22	+28V = ILS Selected 0V = Not ILS Selected	
ILS Tuned Discrete #1 (Gnd)	J1A-03	Input	Gnd Disc 28	Gnd = ILS Selected Open = Not ILS Selected	

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Suppress Audio Only	ICD section 6.4.18
Glideslope Cancel Type	Alternate Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	False	Not used

Table 5.2.5-4: Navigation Input Select #4

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Glideslope #1	(+) = J1B-31 (Up) (-) = J1B-32 (Dn)	6.3.5.1	Format: ARINC 547 with Validity Flag or Low Level Validity & ILS Select Input Type: Basic Fault Designation: GLIDESLOPE Validity: Glideslope Valid Discrete #1 (+28V)
Localizer #1	(+) = J2-H04 (-) = J2-H05	6.3.5.2	Format: ARINC 578-4 with Validity Flag Input Type: Basic Fault Designation: LOCALIZER Validity: Localizer Valid Discrete #1 (+28V)
Glideslope #2	(+) = J2-F10 (Up) (-) = J2-F11 (Dn)	6.3.5.1	Format: ARINC 547 with Validity Flag or Low Level Validity & ILS Select Input Type: Basic Fault Designation: GLIDESLOPE Validity: Glideslope Valid Discrete #2 (+28V)
Localizer #2	(+) = J2-J11 (-) = J2-J12	6.3.5.2	Format: ARINC 578-4 with Validity Flag Input Type: Basic Fault Designation: LOCALIZER Validity: Localizer Valid Discrete #2 (+28V)

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Glideslope Valid Discrete #1 (+28V)	J1B-26	Input	28v Disc 15	+28V = Valid 0V = Not Valid	
Localizer Valid Discrete #1 (+28V)	J2-E15	Input	28v Disc 17	+28V = Valid 0V = Not Valid	
Glideslope Valid Discrete #2 (+28V)	J2-G02	Input	28v Disc 02	+28V = Valid 0V = Not Valid	
Localizer Valid Discrete #2 (+28V)	J2-K12	Input	28v Disc 12	+28V = Valid 0V = Not Valid	
ILS Tuned Discrete #1 (+28V)	J1B-01	Input	28v Disc 22	+28V = ILS Selected 0V = Not ILS Selected	
ILS Tuned Discrete #2 (+28V)	J2-F12	Input	28v Disc 11	+28V = ILS Selected 0V = Not ILS Selected	
ILS Tuned Discrete #1 (Gnd) [1]	J1A-03	Input	Gnd Disc 28	Gnd = ILS Selected Open = Not ILS Selected	
ILS Tuned Discrete #2 (Gnd) [1]	J2-F13	Input	Gnd Disc 26	Gnd = ILS Selected Open = Not ILS Selected	

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Suppress Audio Only	ICD section 6.4.18
Glideslope Cancel Type	Standard Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	False	Not used

[1] **Not available prior to –208-208**

Table 5.2.5-5: Navigation Input Select #5

CHANNEL RX429-2	CONNECT TO: ILS #1 (low speed)		Fault Designation: ILS BUS Bus Type: Basic					
A = J2-C08 B = J2-C09	Data Localizer Glideslope	Reference 6.1.5.2 6.1.5.1	Label 173 174	Sig. Bits 12 12	Range ± 0.4 DDM ± 0.8 DDM	Signal Type Basic Basic	Resolution 0.00009765625 0.0001953125	Rate (ms) 33.3 -66.6 33.3-66.6

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Suppress Audio Only	ICD section 6.4.18
Glideslope Cancel Type	Standard Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	N/A	Not used

Table 5.2.5-6: Navigation Input Select #6

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Glideslope #1	(+) = J1B-31 (Up) (-) = J1B-32 (Dn)	6.3.5.1	Format: ARINC 547 with Validity Flag or Low Level Validity & ILS Select Input Type: Basic Fault Designation: GLIDESLOPE Validity: Glideslope Valid Discrete #1 (+28V)
Localizer #1	(+) = J2-H04 (-) = J2-H05	6.3.5.2	Format: ARINC 578-4 with Validity Flag Input Type: Basic Fault Designation: LOCALIZER Validity: Localizer Valid Discrete #1 (+28V)
Glideslope #2	(+) = J2-F10 (Up) (-) = J2-F11 (Dn)	6.3.5.1	Format: ARINC 547 with Validity Flag or Low Level Validity & ILS Select Input Type: Basic Fault Designation: GLIDESLOPE Validity: Glideslope Valid Discrete #2 (+28V)
Localizer #2	(+) = J2-J11 (-) = J2-J12	6.3.5.2	Format: ARINC 578-4 with Validity Flag Input Type: Basic Fault Designation: LOCALIZER Validity: Localizer Valid Discrete #2 (+28V)

CHANNEL RX429-5	CONNECT TO: FMS #1 (Hi Speed) Format: ARINC 429		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17 B = J1A-18	Data Selected Runway Heading	Reference 6.1.6.29	Label 105	Sig. Bits 11	Range ±180 Degrees	Signal Type Basic	Resolution 0.08789 Deg	Rate (ms) 167-333
CHANNEL RX429-2	**CONNECT TO: FMS #2 (Hi Speed) Format: ARINC 429**		**Fault Designation: FMC BUS 2 Bus Type: Basic**					
A = J2-C08 B = J2-C09	Data Selected Runway Heading	Reference 6.1.6.29	Label 105	Sig. Bits 11	Range ±180 Degrees	Signal Type Basic	Resolution 0.08789 Deg	Rate (ms) 167-333

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Glideslope Valid Discrete #1 (+28V)	J1B-26	Input	28v Disc 15	+28V = Valid 0V = Not Valid	
Localizer Valid Discrete #1 (+28V)	J2-E15	Input	28v Disc 17	+28V = Valid 0V = Not Valid	
Glideslope Valid Discrete #2 (+28V)	J2-G02	Input	28v Disc 02	+28V = Valid 0V = Not Valid	
Localizer Valid Discrete #2 (+28V)	J2-K12	Input	28v Disc 12	+28V = Valid 0V = Not Valid	
ILS Tuned Discrete #1 (+28V)	J1B-01	Input	28v Disc 22	+28V = ILS Selected 0V = Not ILS Selected	
ILS Tuned Discrete #2 (+28V)	J2-F12	Input	28v Disc 11	+28V = ILS Selected 0V = Not ILS Selected	
ILS Tuned Discrete #1 (Gnd)	J1A-03	Input	Gnd Disc 28	Gnd = ILS Selected Open = Not ILS Selected	
ILS Tuned Discrete #2 (Gnd)	J2-F13	Input	Gnd Disc 26	Gnd = ILS Selected Open = Not ILS Selected	

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Suppress Audio Only	ICD section 6.4.18
Glideslope Cancel Type	Alternate Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	False	Not used

Table 5.2.5-7: Navigation Input Select #7

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Glideslope #1	(+) = J1B-31 (Up) (-) = J1B-32 (Dn)	6.3.5.1	Format: ARINC 547 with Validity Flag or Low Level Validity & ILS Select Input Type: Basic Fault Designation: GLIDESLOPE Validity: Glideslope Valid Discrete #1 (+28V)
Localizer #1	(+) = J2-H04 (-) = J2-H05	6.3.5.2	Format: ARINC 578-4 with Validity Flag Input Type: Basic Fault Designation: LOCALIZER Validity: Localizer Valid Discrete #1 (+28V)
Glideslope #2	(+) = J2-F10 (Up) (-) = J2-F11 (Dn)	6.3.5.1	Format: ARINC 547 with Validity Flag or Low Level Validity & ILS Select Input Type: Basic Fault Designation: GLIDESLOPE Validity: Glideslope Valid Discrete #2 (+28V)
Localizer #2	(+) = J2-J11 (-) = J2-J12	6.3.5.2	Format: ARINC 578-4 with Validity Flag Input Type: Basic Fault Designation: LOCALIZER Validity: Localizer Valid Discrete #2 (+28V)

CHANNEL RX429-5	CONNECT TO: FMS #1 (Hi Speed) Format: ARINC 429		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17 B = J1A-18	Data Selected Runway Heading (FMC-"ILS Final Course")	Reference 6.1.6.29	Label 105	Sig. Bits 11	Range ±180 Degrees	Signal Type Basic	Resolution 0.08789 Deg	Rate (ms) 167-333

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Glideslope Valid Discrete #1 (+28V)	J1B-26	Input	28v Disc 15	+28V = Valid 0V = Not Valid	
Localizer Valid Discrete #1 (+28V)	J2-E15	Input	28v Disc 17	+28V = Valid 0V = Not Valid	
Glideslope Valid Discrete #2 (+28V)	J2-G02	Input	28v Disc 02	+28V = Valid 0V = Not Valid	
Localizer Valid Discrete #2 (+28V)	J2-K12	Input	28v Disc 12	+28V = Valid 0V = Not Valid	
ILS Tuned Discrete #1 (+28V)	J1B-01	Input	28v Disc 22	+28V = ILS Selected 0V = Not ILS Selected	
ILS Tuned Discrete #2 (+28V)	J2-F12	Input	28v Disc 11	+28V = ILS Selected 0V = Not ILS Selected	

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Suppress Audio Only	ICD section 6.4.18
Glideslope Cancel Type	Standard Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	False	Not used
ILS Source Select Type	None	SRD 5.9.1

Table 5.2.5-8: Navigation Input Select #8

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Glideslope #1	(+) = J1B-31 (Up) (-) = J1B-32 (Dn)	6.3.5.1	Format: ARINC 547 with Validity Flag or Low Level Validity & ILS Select Input Type: Basic Fault Designation: GLIDESLOPE Validity: Glideslope Valid Discrete #1 (+28V)
Localizer #1	(+) = J2-H04 (-) = J2-H05	6.3.5.2	Format: ARINC 578-4 with Validity Flag Input Type: Basic Fault Designation: LOCALIZER Validity: Localizer Valid Discrete #1 (+28V)
Glideslope #2	(+) = J2-F10 (Up) (-) = J2-F11 (Dn)	6.3.5.1	Format: ARINC 547 with Validity Flag or Low Level Validity & ILS Select Input Type: Basic Fault Designation: GLIDESLOPE Validity: Glideslope Valid Discrete #2 (+28V)
Localizer #2	(+) = J2-J11 (-) = J2-J12	6.3.5.2	Format: ARINC 578-4 with Validity Flag Input Type: Basic Fault Designation: LOCALIZER Validity: Localizer Valid Discrete #2 (+28V)

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
Glideslope Valid Discrete #1 (+28V)	J1B-26	Input	28v Disc 15	+28V = Valid 0V = Not Valid	
Localizer Valid Discrete #1 (+28V)	J2-E15	Input	28v Disc 17	+28V = Valid 0V = Not Valid	
Glideslope Valid Discrete #2 (+28V)	J2-G02	Input	28v Disc 02	+28V = Valid 0V = Not Valid	
Localizer Valid Discrete #2 (+28V)	J2-K12	Input	28v Disc 12	+28V = Valid 0V = Not Valid	
ILS Tuned Discrete #1 (+28V)	J1B-01	Input	28v Disc 22	+28V = ILS Selected 0V = Not ILS Selected	
ILS Tuned Discrete #2 (+28V)	J2-F12	Input	28v Disc 11	+28V = ILS Selected 0V = Not ILS Selected	
ILS Tuned Discrete #1 (Gnd)	J1A-03	Input	Gnd Disc 28	Gnd = ILS Selected Open = Not ILS Selected	
ILS Tuned Discrete #2 (Gnd)	J2-F13	Input	Gnd Disc 26	Gnd = ILS Selected Open = Not ILS Selected	

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Visual Suppress Selected	ICD section 6.4.18
Glideslope Cancel Type	Standard Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	False	Not used

Table 5.2.5-9: Navigation Input Select #9

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Glideslope	(+) = J1B-31 (Up) (-) = J1B-32 (Dn)	6.3.5.3	Format: ARINC 547/578-4 with Low Level Validity & ILS Select Input Type: Basic Fault Designation: GLIDESLOPE Validity: Low Level
Localizer	(+) = J2-H04 (-) = J2-H05	6.3.5.4	Format: ARINC 547/578-4 with Low Level Validity & ILS Select Input Type: Basic Fault Designation: LOCALIZER Validity: Low Level
Glideslope Low Level Validity	(+) = J2-F10 (Up) (-) = J2-F11 (Dn)	6.3.5.3	Format: ARINC 547/578-4 Low Level Validity Input Type: Basic Fault Designation: GLIDESLOPE LOW LEVEL VALIDITY
Localizer Low Level Validity	(+) = J2-J11 (-) = J2-J12	6.3.5.4	Format: ARINC 547/578-4 Low Level Validity Input Type: Basic Fault Designation: LOCALIZER LOW LEVEL VALIDITY

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
ILS Tuned Discrete #1 (+28V)	J1B-01	Input	28v Disc 22	+28V = ILS Selected 0V = Not ILS Selected	
ILS Tuned Discrete #1 (Gnd)	J1A-03	Input	Gnd Disc 28	Gnd = ILS Selected Open = Not ILS Selected	

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Suppress Audio Only	ICD section 6.4.18
Glideslope Cancel Type	Alternate Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	False	Not used

Table 5.2.5-10: Navigation Input Select #10

CHANNEL RX429-2	CONNECT TO: ILS #1 (low speed)		Fault Designation: ILS BUS Bus Type: Basic					
A = J2-C08 B = J2-C09	Data Localizer Glideslope ILS Select (VOR/ILS Frequency)	Reference 6.1.5.2 6.1.5.1 6.1.5.3	Label 173 174 034	Sig. Bits 12 12 Discrete	Range ± 0.4 DDM ± 0.8 DDM n/a	Signal Type Basic Basic Basic	Resolution 0.00009765625 0.0001953125 Bit 14 = ILS	Rate (ms) 33.3 -66.6 33.3 -66.6 167 – 333

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Suppress Audio Only	ICD section 6.4.18
Glideslope Cancel Type	Standard Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	N/A	Not used
KN40 Nav Source	True	SRD 5.9.2.1.R61, 5.9.3.R41

Table 5.2.5-11: Navigation Input Select #11

CHANNEL RX429-16	CONNECT TO: IOC #1 (High speed) Format: ARINC 429		Fault Designation: IOC BUS 1 Bus Type: Basic					
A = J2-C13 B = J2-C14	Data Localizer Glideslope	Reference 6.1.5.2 6.1.5.1	Label 173 174	Sig. Bits 12 12	Range ± 0.4 DDM ± 0.8 DDM	Signal Type Basic Basic	Resolution 0.00009765625 0.0001953125	Rate (ms) 33.3 -66.6 33.3-66.6
CHANNEL RX429-17	**CONNECT TO: IOC #2 (High speed) Format: ARINC 429**		**Fault Designation: IOC BUS 2 Bus Type: Basic**					
A = J2-B14 B = J2-B15	Data Localizer Glideslope	Reference 6.1.5.2 6.1.5.1	Label 173 174	Sig. Bits 12 12	Range ± 0.4 DDM ± 0.8 DDM	Signal Type Basic Basic	Resolution 0.00009765625 0.0001953125	Rate (ms) 33.3 -66.6 33.3-66.6

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Suppress Audio Only	ICD section 6.4.18
Glideslope Cancel Type	Standard Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	N/A	Not used

Table 5.2.5-12: Navigation Input Select #12

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA
Glideslope	(+) = J1B-31 (Up) (-) = J1B-32 (Dn)	6.3.5.3	Format: ARINC 547/578-4 with Low Level Validity & ILS Select Input Type: Basic Fault Designation: GLIDESLOPE Validity: Low Level
Localizer	(+) = J2-H04 (-) = J2-H05	6.3.5.4	Format: ARINC 547/578-4 with Low Level Validity & ILS Select Input Type: Basic Fault Designation: LOCALIZER Validity: Low Level
Glideslope Low Level Validity	(+) = J2-F10 (Up) (-) = J2-F11 (Dn)	6.3.5.3	Format: ARINC 547/578-4 Low Level Validity Input Type: Basic Fault Designation: GLIDESLOPE LOW LEVEL VALIDITY
Localizer Low Level Validity	(+) = J2-J11 (-) = J2-J12	6.3.5.4	Format: ARINC 547/578-4 Low Level Validity Input Type: Basic Fault Designation: LOCALIZER LOW LEVEL VALIDITY

PIN FUNCTION	CONNECTION	PIN TYPE	CHANNEL DESIGNATION REFERENCE	Polarity/Configuration	Summary Data
ILS Tuned Discrete #1 (+28V)	J1B-01	Input	28v Disc 22	+28V = ILS Selected 0V = Not ILS Selected	
ILS Tuned Discrete #1 (Gnd)	J1A-03	Input	Gnd Disc 28	Gnd = ILS Selected Open = Not ILS Selected	

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Suppress Audio Only	ICD section 6.4.18
Glideslope Cancel Type	Standard Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	False	Not used

Table 5.2.5-13: Navigation Input Select #13

CHANNEL RX429-2	CONNECT TO: ILS #1 (low speed)		Fault Designation: ILS BUS 1 Bus Type: Basic					
A = J2-C08 B = J2-C09	Data Localizer Glideslope	Reference 6.1.5.2 6.1.5.1	Label 173 174	Sig. Bits 12 12	Range ± 0.4 DDM ± 0.8 DDM	Signal Type Basic Basic	Resolution 0.00009765625 0.0001953125	Rate (ms) 33.3 -66.6 33.3-66.6
CHANNEL RX429-1	**CONNECT TO: ILS #2 (low speed)**		**Fault Designation: ILS BUS 2 Bus Type: Basic**					
A = J2-C06 B = J2-C07	Data Localizer Glideslope	Reference 6.1.5.2 6.1.5.1	Label 173 174	Sig. Bits 12 12	Range ± 0.4 DDM ± 0.8 DDM	Signal Type Basic Basic	Resolution 0.00009765625 0.0001953125	Rate (ms) 33.3 -66.6 33.3-66.6

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Suppress Audio Only	ICD section 6.4.18
Glideslope Cancel Type	Standard Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	N/A	Not used

Table 5.2.5-14: Navigation Input Select #14

CHANNEL RX429-5	CONNECT TO: ILS #1 (low speed)		Fault Designation: ILS BUS 1 Bus Type: Basic					
A = J1A-17 B = J1A-18	Data Localizer Glideslope	Reference 6.1.5.2 6.1.5.1	Label 173 174	Sig. Bits 12 12	Range ± 0.4 DDM ± 0.8 DDM	Signal Type Basic Basic	Resolution 0.00009765625 0.0001953125	Rate (ms) 33.3 -66.6 33.3-66.6

Configuration Data	Type	Reference Section
QFE Select	No	ICD section 5.2.3
EGPWS Suppress	Suppress Audio Only	ICD section 6.4.18
Glideslope Cancel Type	Standard Cancel Logic	Product Specification section 6.2.5
Glideslope FW Enable	N/A	Not used

5.2.6 Category 6, Position Input Select.(Ppin 18, Ppin 1)

Document Revision History

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/20/97 - A Loos	All	Add words to describe scope of category. Add effectivity to table 5.2.6	202	202
11/26/97 - G Ostrom	All	Added effectivity data to table 5.2.6	202	202
11/26/97 - G Ostrom	All	Updated signal type from TA&D to Basic for every occurrence of Mag Var.	202	202
12/02/97 - G Ostrom	All	SCR 2377, Updated signal type from TA&D to Basic for Track Angle in Tables 5.2.6-1, -2, -4, -5, -6, and -7.	202	202
12/19/97 - G Ostrom	All	SCR 2490, Updated all FMS Fault Designation: from FMS BUS to FMC BUS.	202	202
12/23/97 - G Ostrom	5.2.6	SCR 2416, Identified ID #2 as future.	202	202
01/14/98 - M Calhoun	5.2.6	SCR 2556, Added IDs 8, 9, 10 & 11 to position select.	204	204
03/05/98 - M Calhoun	5.2.6	SCR 2556, Renumbered and added more Ids to position select.	204	
03/10/98 - M Calhoun	5.2.6	SCR 2556, Added FMS/DAU to position select	204	204
03/19/98 - G Ostrom	5.2.6	SCR 2620: Table 5.2.6 designated ID 2, 8 and 9 and Tables 20 and 21 as future.	204	204
03/30/98 - G Ostrom	5.2.6	SCR 2556, Revised table 5.2.6-24 connection and designation ref of Magnetic Heading Valid (+28V).	204	204
04/08/98 – A. Anderson	All	Updated traceability.	N/A	N/A
04/14/98 – A. Anderson	5.2.6-12, 13,14,15, 18,19,20, 21	SCR 2556: Added future to tracing in tables 5.2.6-12, 13, 14, 15, 18, 19, 20 and 21	204	204
04/16/98 – M Calhoun	5.2.6-26,27	Added clarification that DAU True Heading in tables 26 and 27 use SDI.	204	204
04/17/98 - G Ostrom	5.2.6-0,1,3,4,5,6,7,8,10, 16,20,21,22,23,25	SCR 2556: Revised fault designation for all single bus configurations to xxx BUS 1.	204	204
04/27/98 - G Ostrom	5.2.6-24	SCR 2682: Revised connection of Heading Valid to J2-D04. Also updated limitation note.	204	204
05/18/98 - G Ostrom	5.2.6-16,18,22,23,25	SCR 2760: Removed Altitude and Vert Speed from tables 5.2.6-16,18, 22, 23, and 25.	204	204
07/01/98 - G Ostrom	5.2.6 5.2.6-20 5.2.6-21	SCR 2620: Table 5.2.6 removed future from ID 2, 8 and 9 and Tables 20 and 21. Removed date and time and added reference sections to Tables 20 and 21.	206	206
07/15/98 - G Ostrom	5.2.6-16 5.2.6-17 5.2.6-18 5.2.6-19 5.2.6-22 5.2.6-25	SCR 2955: Added Altitude and VFOM to 5.2.6-1 and 5.2.6-2. Added Altitude and Sensor Status to tables 5.2.6-16,17,18,19, 22 and -25.	206	206
09/10/98 - G Ostrom	5.2.6 5.2.6-0	Added Qual test only text to table 5.2.6-0 and 5.2.6 ID 0.	206	206
09/17/98 – L. Caldeira	5.2.6-20 5.2.6-21	Took out 'future' from the tracing to these tables, since they're implemented and tested.	206	206
10/01/98 - G Ostrom	5.2.6-20 5.2.6-21	SCR 3177: Replaced "TA&D" with "Basic" Signal Type for all signals in tables 5.2.6-20 and 5.2.6-21.	206	206
10/02/98 - G Ostrom	5.2.6-20 5.2.6-21	SCR 3177: Replaced "TA&D" with "Basic" Bus Type for tables 5.2.6-20 and 5.2.6-21.	206	206
10/09/98 - G Ostrom	5.2.6	Added applicability information to note 2.	-	-

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
10/30/98- F Trowbridge	5.2.6-x	SCR 3169: Replaced "TA&D" with "Basic" in all tables. (All position input signals and buses are basic.)	208	208
11/06/98- F Trowbridge	5.2.6-14 5.2.6-15	SCR 3169: In table –14, corrected comment under 'Connect to', to say 'FMS-2', instead of 'FMS-1'. In table –15, corrected comment to say 'same as table 14, instead of 'same as table 10'.	208	208
11/13/98-M Force	5.2.6-28 5.2.6-29	SCR 3305: Add tables for new FMS input.	208	208
16/NOV/98 – NSP	5.2.6 5.2.6-30	SCR 3305: Reformatted table 5.2.6 to provide additional room and added dash for 5.2.6-28 and –29 (ID 91, 92) for FMS-800. SCR 3243: Added –30 and ID 93 for C-141	208	208
17/NOV/98 – AWA	5.2.6-4 5.2.6-5 5.2.6-6 5.2.6-7	SCR 3316: In tables 5.2.6-4, 5, 6 & 7; for True Track & True Heading, changed Sig. Bits from 12 to 15 and Resolution from 0.0439453125 to 0.0054931640625.	208	208
01/DEC/98 - MJC	5.2.6	SCR 3359: Corrected note to indicate that ARINC 743 (not ARINC 743A) not functional prior to –206. Also deleted destination Lat/Long and Runway Course from list of inputs activated by this category.	206	206
03/DEC/98 – AWA	5.2.6-26 5.2.6-27	SCR 3316: Changes Magnetic Track Angle Sig. Bits from 12 to 15 and Resolution from 0.0439453125 to 0.0054931640625 to match 6.1.6.23 in Appendix A.	208	208
07/DEC/98 – R. Foster	5.2.6	SCR 3318: Defined Table 5.2.6–6, -16, –18, and -23 for ID 86. Reformatted table 5.2.6 to provide additional columns.	208	208
08/DEC/98 – A Loos	5.2.6-30	SCR 3243: Changed 5.2.6-30 to Type 2 FMS, removed label 270, Nav Mode Word, tagged specific labels to be GPS source, and reordered entries to be in numerical order by label number.	-	208
18/DEC/98 – F. Trowbridge	5.2.6-30	SCR 3243: Corrected 5.2.6-30 Signal Type entries to all say 'Basic'.	208	208
24-MAR-99 – A Loos	Table 5.2.6	Added missing row separation lines.	-	-
26-MAR-99 – J. Kistler	-	Added note to clarify selection of GPS altitude reference	-	-
6-APR-99 – M. Force	Table 5.2.6	SCR 3742: Activated Category 6 position input ID 84.	-210	-210
06-MAY-99 – MJC	Table 5.2.6 Added tables 31 - 34	SCR 3803: Added future IDs 46 & 67 and noted that FMS position for these IDs not used for Enhanced functions. Added future IDs 47 & 68 for Single/Dual GNS/CDU-XLS with ARINC 429 GPS output mod. Activated ID #25.	-210	-210
12-MAY-99 – A Loos	Table 5.2.6 Added table 35	SCR 3835: Add ID 94 and Table 5.2.6-35	210	210
12-MAY-99 – MJC		SCR 3803: Activated all ID changes made on 06-MAY for this SCR.	210	210
14-JUN-99 – MPF	Table 5.2.6 added table 36	SCR 3874: Add HS GPS to channel 4 to correspond to IRS bus.	210	210
16-JUL-99 – M. Force	Table 5.2.6	SCR 3875: Added Note to ID 95.	-	-210
9-SEP-99 – M. Force	Table 5.2.6	SCR 4256: Added table 5.2.6-37, added reference notes to IRS concurrent use, and updated table 5.2.6.	-	-210
20-SEP-99 – M. Force	Table 5.2.6	SCR 4294: Added tables 5.2.6-38 and 5.2.6-39.		-210
24-Sep-99 - A Loos	ALL	SCR 4334: Correct format errors.	-	-

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
07-FEB-00 - MJC	5.2.6-3	Changed bus name from 'GNS-XLS' to 'Type 2 FMS with Mag Hdg'. Due to recent FMS mods, other input configurations may be more appropriate to use with the XLS.	-	-
02-JUN-00 – M. Henderson	Table 5.2.6	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
20-JUN-00 – MJC	5.2.6 Added 5.2.6-40	SCR 5222: Added ID 69 for –060 qual test usage.	-	-214
22-AUG-00 – MJC	5.2.6	Deleted unnecessary tracing item (5.2.6) in top section.	-	-
07-JUN-01 – MJC	5.2.6 Deleted 5.2.6-40	SCR 5222: Deleted ID 69. Is not needed for –06x/-07x qual test. Added note that channel 6 for these P/Ns requires high speed A743A GPS Selection.	-	-214
01-AUG-01 – MJC	5.2.6	SCR 5222: Deleted mention of -07x part number.	-	-214
29-AUG-01 – Gary Boyd	New 5.2.6 ID 97	SCR 6278: Added ID 97 for Raytheon GIII (C20) use.	-	-214
17-SEP-01 – L. Caldeira	5.2.6-12	SCR 6278: Took ‘future’ out of this table.	-	-214
12-NOV-01 – G. Ostrom	5.2.6-0	SCR 6497: Table 5.2.6-0 changed channel from 6 to 5 for Mercury compatibility.	-	-214
28-NOV-01 – N Paterson	All Table 5.2.6	SCR 6053: General cleanup SCR 6525: Added traceability.	-	-
22-FEB-02 – L. Caldeira	5.2.6-20	SCR 6699: Added DR config item to table. Ported from ADCN for 214 mod 1.	-216	-216
11-JUN-02 – G. Ostrom	Table 5.2.6 and 5.2.6-21	SCR 6608: Table 5.2.6 added Note to ID 97. Added notes to table 5.2.6-21.	-	-
14-APR-03 – MJC	Table 5.2.6	SCR 7510: Activated position IDs 72, 73, 80 & 81.	-	-218
7-May-03 – A Loos	Tables 5.2.6-16, 18, 25, 36, and 37.	SCR 7545: Add GPS Fine Latitude and Longitude labels to ARINC 743, ARINC 743A, and CMA900-3 GPS’ to support RAAS. Add “Application Notes” table and note that GPS Fine Latitude and Longitude are only required for RAAS. SCR 7042: Add note about HDOP, VDOP, UTC date and time not causing a fault.	-218	-218
18-AUG-03 – M. Henderson	5.2.6-16 5.2.6-18 5.2.6-25 5.2.6-36 5.2.6-37	SCR 7653: Updated LSB and removed sign bit information from 5.2.6-16, 5.2.6-18, 5.2.6-25, 5.2.6-36, and 5.2.6-37.	-218	-218
12-JAN-04 – Gill	Tables 5.2.6-1 5.2.6-2 5.2.6-22 5.2.6-33 5.2.6-34	SCR 7836: Updated tables to add Latitude Fine (label 120) and Longitude Fine (label 121).	-219	-219
13-JAN-04 – Gill	Tables 5.2.6-1 5.2.6-2 5.2.6-22 5.2.6-33 5.2.6-34	Document Only change. Update notes in tables to reflect 219-219. Updated audit trail for SCR 7836 above to reflect 219-219.	-	-

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
05-MAR-04 – D. Gibson	Table 5.2.6	SCR 7882: Created new POS ID 69 in table 5.2.6 to include: FMS – 1 Type 2 Lo Spd see table 5.2.6-10 IRS - Hi Spd ARINC 704 see table 5.2.6-23 GPS – 1 Lo Spd (CMA900) see table 5.2.6-25	220	220
07-APR-04 – Gill	Table 5.2.6	SCR 7947: Document Only. Added note at end of Table 5.2.6	-	-
01-NOV-05 – M. Henderson	Table 5.2.6 Table 5.2.6-40	SCR 8414: Added new FMS type 40 and created ID 87.	-	-
02-DEC-05 – E. Wilmot	Table 5.2.6-40	SCR 8414: Corrected Configuration Data name and Type and added Reference Section.	-	-
15-DEC-05 G. Burlingame	Table 5.2.6	SCR 8475: Deleted GPS #2 from ID 87	-	-
16-FEB-06 – E. Wilmot	Table 5.2.6 Table 5.2.6-40	SCRs 8414 and 8475: Backed out all associated changes. Changed effectivity of associated, previous audit trail entries.	-	-
10-MAR-06 – M. Calhoun	Table 5.2.6 Table 5.2.6-24 Table 5.2.6-25	SCR 8201: Doc only changes: Delete all future position IDs from table 5.2.6 as they have been misread as being supported Added note below table. Corrected formatting problem.	-	-
12-APR-06 G. Burlingame	Table 5.2.6	SCR 8201: Doc only change adding IDs 29 and 93 to compatibility note	-	-
25-MAY-06 – A. Lowe	Table 5.2.6 Added 5.2.6-41, 5.2.6-42	SCR 8686: Added new ID 88 (16, 18, 41 selected) and 89 (16, 18, 42 selected) to Table 5.2.6. Added new bulleted note under Table 5.2.6 pertaining to ID 88 and 89. Added new tables 5.2.6-41, 5.2.6-42.	226	226
01-JUN-06 – A. Lowe	Table 5.2.6 Table 5.2.6-41 Table 5.2.6-42	SCR 8686: Updated Note for ID 88 and 89 for Table 5.2.6. Updated table title for 41 and 42 in Table 5.2.6. Updated Table 5.2.6-41 and 5.2.6-42 to include 'Format: ARINC 429' and clarified title names.	226	226
05-JUN-06 – L Ngo	Table 5.2.6 Table 5.2.6-40	SCR 8522: Added new ID 87 (17 & 40 selected). Added new high speed FMC Bus 1 with VSD table.	226	226
07-JUN-06 – A. Lowe	Table 5.2.6 Table 5.2.6-41 Table 5.2.6-42	SCR 8686: Removed any information corresponding to 'Mag Var' for ID 41 and 42.	226	226
11-JUL-06 – A. Lowe	Table 5.2.6 Table 5.2.6-42	SCR 8686: Table 5.2.6, delete option for GPS-2 Lo Spd, (column 18) for ID 89. Table 5.2.6-42, update title, delete Channel 17, add FMC (Nav Mode) label 302 to Channel 16. Updated 'typical arrangement of categories' table that is right before Table 5.2.6 to reflect 'Single/Dual GPS' for IDs 70-89 instead of 'Dual GPS'.	226	226
12-JUL-06 – A. Lowe	Table 5.2.6 Table 5.2.6-41 Table 5.2.6-42	SCR 8686: Table 5.2.6, updated column 42's title to state 'Single' and 'Type1'. Table 5.2.6-41 and 5.2.6-42, made titles/formatting more consistent.	226	226

The following table provides identification of the Position source. Each entry in the Position Input Select column has a corresponding table that provides detailed information on the configuration. For example, the details for Position Input Select #0 are found in Table 5.2.6-0.

Application Notes	
1.	Designation as a Type 1 FMS only implies that Navigation Mode data is available. Type 2's do not have Nav Mode data.
2.	**Use of ID's in this category to turn on GPS data requires the use of Category 12 (Options Select Group #3) to select ARINC 743 instead of ARINC 743A GPS format (refer to section 5.2.12.) ARINC 743 GPS is not supported prior to 965-1076-0xx-206-206.
3.	Selection of the GPS altitude reference to MSL or WGS-84 is made using Category 17 (Options Select Group #4).
4.	A Type 3 FMS only implies that the EGPWS uses the Magnetic Heading input to derive true heading.
5.	HDOP (101), VDOP (102), UTC Date (260), and UTC Time (125) are not currently used. Absence of these labels will not cause a fault at this time. However these labels may be used in future releases and should be provided if available.
6.	GPS Latitude Fine (120) and GPS Longitude Fine (121) are required for the RAAS function. Absence of these labels will only be reported as a fault if RAAS is enabled.

In this category, only the following ARINC 429 signals are to be defined:

• Altitude - GPS • Date • FMC (Nav Mode) • Ground Speed • Horizontal Figure of Merit (HFOM) - GPS • Horizontal Dilution of Precision (HDOP)- GPS • Horizontal. Integrity Limit - GPS • Latitude - Normal/Present Position • Longitude - Normal/Present Position	• Magnetic Track Angle • Magnetic Variation • Magnetic Heading • Sensor Status - GPS • Track Angle - GPS/True • True Heading • Universal Time Correlation • Vertical Dilution of Precision (VDOP) - GPS • Vertical Figure of Merit (VFOM) – GPS • Vertical Velocity – GPS

In cases where the above signals are on an ARINC 429 bus with other signals, you may:

- In the other categories select the same bus with the **same Fault Designation name and Channel** connection as this category. In this case a single physical bus with a single connection satisfies more than one category, or;
- In the other categories select a **different bus Fault Designation name and Channel** connection and wire the connections to the same source (if loading permits). Note: In this case a single physical bus failure will result in multiple bus names being faulted in the MK VII EGPWS Self Test. In this case a single physical bus with multiple connections satisfies more than one category.

For reference the typical ARINC 429 input channel assignments are as follows.

ARINC 429 CHANNEL	TYPICAL CONNECTION
RX429-5 A = J1A-17 B = J1A-18	**FMS #1**
RX429-6 A = J1A-22 B = J1A-23	**GPS #1** **Note that on the –06x part numbers these pins are internally connected to a high speed transmitter from the internal Mercury GPS to provide GPS data to the EGPWS. Therefore, on these part numbers the position input ID's that activate this channel must select a high speed, ARINC 743A input format. In addition, the WGS-84 Altitude reference option in category 17 must NOT be selected (the Mercury output label 076 is MSL referenced).** **Note that a dedicated high speed ARINC 743A GPS output (not internally connected) is also provided on pins J2-A5/A6.**
RX429-2 A = J2-C08 B = J2-C09	**FMS #2 or GPS #2**
RX429-4 A = J1A-11 B = J1A-12	**IRS**

The strapping table shows which input combinations will be activated for each ID.

For example, ID number 14 selects dual low speed GPS and Magnetic Heading Synchro. In addition, if the GPS format is ARINC 743 instead of ARINC 743A then the Options Select Group #3 program pin needs to be strapped as indicated in table 5.2.12.

In the strapping table position source selections are typically arranged as follows:

Position Source(s)	ID Number
Single FMS or Single/Dual GPS	0 to 19
Single/Dual FMS, no GPS	20 to 29
Dual FMS, Single GPS	30 to 49
Single FMS, Single GPS	50 to 69
Single FMS or Single/Dual GPS	70 to 89
Other	90 to 99

Table 5.2.6: Position Input Select (Ppin 18, Ppin 1)

Per Table 5.2.6-x (PP18 – J2-B3) (PP1 – J2-B2)			FMS –1 Hi Spd w Mag Tk (Qual only)	Trimble GPS	Dual Trimble GPS	FMS –1 Type 2 Hi Spd with Mag Hdg	FMS –1 Type 2 Hi Spd with Mag Var	FMS –1 Type 2 Lo Spd with Mag Var	FMS –1 Type 1 Hi Spd with Mag Var	FMS –1 Type 1 Lo Spd with Mag Var	FMS –1 Type 1 Lo Spd	FMS –1 Type 1 Hi Spd	FMS –1 Type 2 Lo Spd	FMS –1 Type 2 Hi Spd	FMS –2 Type 1 Lo Spd	FMS –2 Type 1 Hi Spd	FMS –2 Type 2 Lo Spd	FMS –2 Type 2 Hi Spd	GPS –1 Lo Spd (ARINC 743A**)	GPS –1 Hi Spd (ARINC 743A**)	GPS –2 Lo Spd (ARINC 743A**)	GPS –2 Hi Spd (ARINC 743A**)	Internal RS232 GPS	External RS232 GPS	LTN –92 Modified INS	IRS	Mag Hdg Synchro	GPS –1 Lo Spd (CMA900)	FMS-1 Type1 Lo Spd (FMS-800)	FMS-2 Type1 Lo Spd (FMS-800)	FMS – 1 Type 3 Hi Spd	FMS – 2 Type 3 Hi Spd	GNS/CDU-XLS #1 Lo Spd w/GPS	GNS/CDU-XLS #2 Lo Spd w/GPS	IRS/GPS –2 Hi Spd	IRS/GPS –1 Hi Spd	FMS-1 Type1 Hi Spd (FMS-800)	FMS-2 Type1 Hi Spd (FMS-800)	FMS-1 Type2 Hi Spd with VSD	FMS-Dual Type1 Hi Spd (IOC)	FMS-Single Type1 Hi Spd (IOC)			EFFECTIVITY	
→			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	28	29	31	32	33	34	36	37	38	39	40	41	42				
ID	PP 18	PP 1																																											
0	1	1	X																																								202	202
1	1	2		X																																							202	202
2	1	3																						X																			206	206
3	1	4				X																																					202	202
4	1	5					X																																				202	202
5	1	6						X																																			202	202
6	1	7							X																																		202	202
7	1	8								X																																	202	202
8	1	9																					X				X															206	206
9	1	10																					X			X																	206	206
10	2	1																	X								X																204	204
11	2	2																	X							X																	204	204
12	2	3																		X							X																204	204
13	2	4																		X						X																	204	204
14	2	5																																									Future	Future
15	2	6																																									Future	Future
16	2	7																																									Future	Future
17	2	8																																									Future	Future
18	2	9			X																																						204	204
19	2	10																																										
20	3	1									X																																204	204
21	3	2										X																															204	204
22	3	3											X																														204	204
23	3	4												X																													204	204
24	3	5																																									Future	Future
25	3	6										X				X																											210	210
26	3	7																																									Future	Future
27	3	8																																									Future	Future
28	3	9	**Single FMS/DAU unique to BA 747 per Table 5.2.6-26**																																								204	204
29	3	10	**Dual FMS/DAU unique to BA 747 per Table 5.2.6-26 and 5.2.6-27**																																								204	204
30	4	1																																									Future	Future
31	4	2																																									Future	Future
32	4	3																																									Future	Future
33	4	4																																									Future	Future
34	4	5																																									Future	Future

ID	PP 18	PP 1	0 FMS –1 Hi Spd w Mag Tk (Qual only)	1 Trimble GPS	2 Dual Trimble GPS	3 FMS –1 Type 2 Hi Spd with Mag Hdg	4 FMS –1 Type 2 Hi Spd with Mag Var	5 FMS –1 Type 2 Lo Spd with Mag Var	6 FMS –1 Type 1 Hi Spd with Mag Var	7 FMS –1 Type 1 Lo Spd with Mag Var	8 FMS –1 Type 1 Lo Spd	9 FMS –1 Type 1 Hi Spd	10 FMS –1 Type 2 Lo Spd	11 FMS –1 Type 2 Hi Spd	12 FMS –2 Type 1 Lo Spd	13 FMS –2 Type 1 Hi Spd	14 FMS –2 Type 2 Lo Spd	15 FMS –2 Type 2 Hi Spd	16 GPS –1 Lo Spd (ARINC 743A**)	17 GPS –1 Hi Spd (ARINC 743A**)	18 GPS –2 Lo Spd (ARINC 743A**)	19 GPS –2 Hi Spd (ARINC 743A**)	20 Internal RS232 GPS	21 External RS232 GPS	22 LTN –92 Modified INS	23 IRS	24 Mag Hdg Synchro	25 GPS –1 Lo Spd (CMA900)	28 FMS-1 Type1 Lo Spd (FMS-800)	29 FMS-2 Type1 Lo Spd (FMS-800)	31 FMS – 1 Type 3 Hi Spd	32 FMS – 2 Type 3 Hi Spd	33 GNS/CDU-XLS #1 Lo Spd w/GPS	34 GNS/CDU-XLS #2 Lo Spd w/GPS	36 IRS/GPS –2 Hi Spd	37 IRS/GPS –1 Hi Spd	38 FMS-1 Type1 Hi Spd (FMS-800)	39 FMS-2 Type1 Hi Spd (FMS-800)	40 FMS-1 Type2 Hi Spd with VSD	41 FMS-Dual Type1 Hi Spd (IOC)	42 FMS-Single Type1 Hi Spd (IOC)	EFFECTIVITY	
35	4	6																																						Future	Future
36	4	7																																							Future	Future
37	4	8																																							Future	Future
38	4	9																																							Future	Future
39	4	10																																							Future	Future
40	5	1																																							Future	Future
41	5	2																																							Future	Future
42	5	3																																							Future	Future
43	5	4																																							Future	Future
44	5	5																																							Future	Future
45	5	6																																							Future	Future
*46	5	7																					X										X	X							210	210
47	5	8																																	X	X							210	210
48	5	9																																										
49	5	10																																										
50	6	1									X									X							X															204	204
51	6	2									X									X							X															204	204
52	6	3									X										X																					204	204
53	6	4									X										X						X															204	204
54	6	5										X								X																							204	204
55	6	6										X								X							X															204	204
56	6	7										X									X																					204	204
57	6	8										X									X						X															204	204
58	6	9											X							X																							204	204
59	6	10											X							X							X															204	204
60	7	1											X								X																						204	204
61	7	2											X								X						X															204	204
62	7	3												X						X																							204	204
63	7	4												X						X							X															204	204
64	7	5												X							X																						204	204
65	7	6												X							X						X															204	204
66	7	7											X																X														204	204
*67	7	8																					X									X											210	210
68	7	9																																X									210	210
69	7	10											X														X		X														220	220
70	8	1																																									Future	Future
71	8	2																																								Future	Future

Per Table 5.2.6-x (PP18 – J2-B3) (PP1 – J2-B2)			FMS –1 Hi Spd w Mag Tk (Qual only)	Trimble GPS	Dual Trimble GPS	FMS –1 Type 2 Hi Spd with Mag Hdg	FMS –1 Type 2 Hi Spd with Mag Var	FMS –1 Type 2 Lo Spd with Mag Var	FMS –1 Type 1 Hi Spd with Mag Var	FMS –1 Type 1 Lo Spd with Mag Var	FMS –1 Type 1 Lo Spd	FMS –1 Type 1 Hi Spd	FMS –1 Type 2 Lo Spd	FMS –1 Type 2 Hi Spd	FMS –2 Type 1 Lo Spd	FMS –2 Type 1 Hi Spd	FMS –2 Type 2 Lo Spd	FMS –2 Type 2 Hi Spd	GPS –1 Lo Spd (ARINC 743A**)	GPS –1 Hi Spd (ARINC 743A**)	GPS –2 Lo Spd (ARINC 743A**)	GPS –2 Hi Spd (ARINC 743A**)	Internal RS232 GPS	External RS232 GPS	LTN –92 Modified INS	IRS	Mag Hdg Synchro	GPS –1 Lo Spd (CMA900)	FMS-1 Type1 Lo Spd (FMS-800)	FMS-2 Type1 Lo Spd (FMS-800)	FMS – 1 Type 3 Hi Spd	FMS – 2 Type 3 Hi Spd	GNS/CDU-XLS #1 Lo Spd w/GPS	GNS/CDU-XLS #2 Lo Spd w/GPS	IRS/GPS –2 Hi Spd	IRS/GPS –1 Hi Spd	FMS-1 Type1 Hi Spd (FMS-800)	FMS-2 Type1 Hi Spd (FMS-800)	FMS-1 Type2 Hi Spd with VSD	FMS-Dual Type1 Hi Spd (IOC)	FMS-Single Type1 Hi Spd (IOC)			EFFECTIVITY	
→			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	28	29	31	32	33	34	36	37	38	39	40	41	42				
ID	**PP 18**	**PP 1**																																											
72	8	3									X									X		X																					218	218
73	8	4									X									X		X				X																	218	218
74	8	5																																									Future	Future
75	8	6																																									Future	Future
76	8	7																																									Future	Future
77	8	8																																									Future	Future
78	8	9																																									Future	Future
79	8	10																																									Future	Future
80	9	1											X							X		X																					218	218
81	9	2											X							X		X				X																	218	218
82	9	3																																									Future	Future
83	9	4																																									Future	Future
84	9	5												X						X		X																					210	210
85	9	6																																										Future	Future
86	9	7							X										X		X					X																	208	208
87	9	8																		X																				X				226	226
88	9	9																	X		X																				X				226	226
89	9	10																	X																							X				226	226
90	10	1																							X																				204	204
91	10	2																										X																	208	208
92	10	3																										X	X																208	208
93	10	4	**Dual Nav Processor with Military Trimble GPS (C-141 Only) per Table 5.2.6-30**																																											208	208
94	10	5	**Navy C-2A CDNU FMS per Table 5.2.6-35**																																											210	210
95	10	6											X				X																				X	X							210	210
96	10	7																																						X	X					210	210
97	10	8									X				X																						X	X							214	214
98	10	9																																												
99	10	10																																												

- For IDs #46 and #67 the FMS position data is not used for Enhanced Functions. It is a fallback for Env. Modulation only.
- ID 95 and ID 97 were designed for use with table 5.2.4-11.
- ID 88 and ID 89 were designed for use with Terrain Display Type 45 and 46 (ProLine 21) and dual IOC buses in categories 2-5.
- IDs # 14-18, 24-27, 29-47, 70-86, 92, 93, 95-97 are not compatible with the following:
  1) Category 2 Radio Altitude ID 7 ((there is a conflict between the ARINC 429 channel definitions).
  2) Category 3 Air Data ID's 2, 3, 12, 14, 15, 22, 23, 26, 28 (there is a conflict between the ARINC 429 channel definitions) and 18 (there is a conflict between the SAT validity and the Radio Altimeter #3 validity).
  3) Category 5 Navigation ID's 1, 5, 6, 10, 26, 30, 35 (there is a conflict between the ARINC 429 channel definitions).

Table 5.2.6-0: Hi Speed Type 2 FMS with Mag Trk (Qual Test Only)

CHANNEL[1] RX429-5	CONNECT TO: FMC (Hi-Speed)		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17 B = J1A-18	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	Latitude - Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude - Pres. Pos.	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Magnetic Track Angle	6.1.6.23	317	15	±180 degrees	Basic	0.0054931640625	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000
	Track Angle - True	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-1: Hi Speed Trimble GPS

CHANNEL RX429-6	CONNECT TO: GPS #1 (High Speed) per ARINC 743A-2 (Trimble ch #3)		Fault Designation: GPS BUS 1 Bus Type: Basic					
A = J1A-22 B = J1A-23	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	Latitude – Normal	6.1.6.16	110	20	±180 Degrees	Basic	0.00017166137695	1000
	Latitude Fine[3]	6.1.6.17	120	11	0.000172 Deg	Basic	8.381903E-8	1000
	Longitude – Normal	6.1.6.19	111	20	±180 Degrees	Basic	0.00017166137695	1000
	Longitude Fine[3]	6.1.6.20	121	11	0.000172 Deg	Basic	8.381903E-8	1000
	GPS Hor. Int. Limit	6.1.6.7	130	17	16 nm	Basic	0.00012207	1000
	Altitude	6.1.6.1	076	20	±131,072 FT	Basic	0.125	1000
	VFOM	6.1.6.35	136	18	32768 ft	Basic	0.125	1000
	HFOM	6.1.6.11	247	18	16 nm	Basic	0.000061035	1000
	Ground Speed	6.1.6.9	112	15	±4096 Knots	Basic	0.125	1000
	Track Angle – GPS	6.1.6.31	103	15	±180 Degrees	Basic	0.0054931640625	1000
	True Heading[2]	6.1.6.33	314	15	±180 Degrees	Basic	0.0054931640625	1000
	Magnetic Var	6.1.6.25	147	12	±180 Degrees	Basic	0.0439453	1000

* Slowest acceptable update rate in milliseconds.

[1] This was channel 6 prior to –214-214. Channel 6 conflicts with Mercury internal GPS Bus.
[2] True Heading per ARINC 429-14 for equipment code 004 (IRU)
[3] Latitude Fine and Longitude Fine are required to support the Runway Awareness Advisory System (RAAS). These signals are not supported prior to 965-1076-0xx-219-219.

Table 5.2.6-2: Dual Hi Speed Trimble GPS

CHANNEL RX429-6	CONNECT TO: GPS #1 (High Speed) per ARINC 743A-2		Fault Designation: GPS BUS 1 Bus Type: Basic					
A = J1A-22	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-23	Latitude – Normal	6.1.6.16	110	20	±180 Degrees	Basic	0.00017166137695	1000
	Latitude Fine[3]	6.1.6.17	120	11	0.000172 Deg	Basic	8.381903E-8	1000
	Longitude – Normal	6.1.6.19	111	20	±180 Degrees	Basic	0.00017166137695	1000
	Longitude Fine[3]	6.1.6.20	121	11	0.000172 Deg	Basic	8.381903E-8	1000
	GPS Hor. Int. Limit	6.1.6.7	130	17	16 nm	Basic	0.00012207	1000
	Altitude	6.1.6.1	076	20	±131,072 FT	Basic	0.125	1000
	VFOM	6.1.6.35	136	18	32768 ft	Basic	0.125	1000
	HFOM	6.1.6.11	247	18	16 nm	Basic	0.000061035	1000
	Ground Speed	6.1.6.9	112	15	±4096 Knots	Basic	0.125	1000
	Track Angle - GPS	6.1.6.31	103	15	±180 Degrees	Basic	0.0054931640625	1000
	True Heading[1]	6.1.6.33	314	15	±180 Degrees	Basic	0.0054931640625	1000
	Magnetic Var	6.1.6.25	147	12	±180 Degrees	Basic	0.0439453	1000
CHANNEL RX429-2	**CONNECT TO: GPS #2 (High Speed) per ARINC 743A-2**		**Fault Designation: GPS BUS 2 Bus Type: Basic**					
A = J2-C08	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J2-C09	Latitude – Normal	6.1.6.16	110	20	±180 Degrees	Basic	0.00017166137695	1000
	Latitude Fine[3]	6.1.6.17	120	11	0.000172 Deg	Basic	8.381903E-8	1000
	Longitude – Normal	6.1.6.19	111	20	±180 Degrees	Basic	0.00017166137695	1000
	Longitude Fine[3]	6.1.6.20	121	11	0.000172 Deg	Basic	8.381903E-8	1000
	GPS Hor. Int. Limit	6.1.6.7	130	17	16 nm	Basic	0.00012207	1000
	Altitude	6.1.6.1	076	20	±131,072 FT	Basic	0.125	1000
	VFOM	6.1.6.35	136	18	32768 ft	Basic	0.125	1000
	HFOM	6.1.6.11	247	18	16 nm	Basic	0.000061035	1000
	Ground Speed	6.1.6.9	112	15	±4096 Knots	Basic	0.125	1000
	Track Angle - GPS	6.1.6.31	103	15	±180 Degrees	Basic	0.0054931640625	1000
	True Heading[2]	6.1.6.33	314	15	±180 Degrees	Basic	0.0054931640625	1000
	Magnetic Var	6.1.6.25	147	12	±180 Degrees	Basic	0.0439453	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-3: Hi Speed Type 2 FMS with Mag Hdg

CHANNEL RX429-5	CONNECT TO: GNS XLS *(Hi-Speed)*		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-18	Latitude - Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude- Pres. Pos.	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	Track Angle - True	6.1.6.32	313	15	±180 degrees	Basic	0.0054931640625	1000
	True Heading	6.1.6.33	314	15	±180 degrees	Basic	0.0054931640625	1000
	Magnetic Heading	6.1.6.22	320	15	±180 degrees	Basic	0.0054931640625	1000

* Slowest acceptable update rate in milliseconds.

1 True Heading per ARINC 429-14 for equipment code 004 (IRU)

2 True Heading per ARINC 429-14 for equipment code 004 (IRU)

3 Latitude Fine and Longitude Fine are required to support the Runway Awareness Advisory System (RAAS). These signals are not supported prior to 965-1076-0xx-219-219.

Table 5.2.6-4: Hi Speed Type 2 FMS with Mag Var

CHANNEL RX429-5	CONNECT TO: FMS-1 *(Hi-Speed)*		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-18	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle	6.1.6.32	313	15	±180 degrees	Basic	0.0054931640625	1000
	True Heading	6.1.6.33	314	15	±180 degrees	Basic	0.0054931640625	1000
	Magnetic Var	6.1.6.25	147	12	±180 degrees	Basic	0.0439453	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-5: Low Speed Type 2 FMS with Mag Var

CHANNEL RX429-5	CONNECT TO: FMS-1 *(Low-Speed)*		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-18	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle	6.1.6.32	313	15	±180 degrees	Basic	0.0054931640625	1000
	True Heading	6.1.6.33	314	15	±180 degrees	Basic	0.0054931640625	1000
	Magnetic Var	6.1.6.25	147	12	±180 degrees	Basic	0.0439453	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-6: Hi Speed Type 1 FMS with Mag Var

CHANNEL RX429-5	CONNECT TO: FMS-1 *(Hi-Speed)*		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-18	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle	6.1.6.32	313	15	±180 degrees	Basic	0.0054931640625	1000
	True Heading	6.1.6.33	314	15	±180 degrees	Basic	0.0054931640625	1000
	Mag Var	6.1.6.25	147	12	±180 degrees	Basic	0.0439453	1000
	FMC (Nav Mode)	6.1.6.6.2	266	Type 2	N/A	Basic	N/A.	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-7: Low Speed Type 1 FMS with Mag Var

CHANNEL RX429-5	CONNECT TO: FMS-1 *(Low-Speed)*		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-18	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle	6.1.6.32	313	15	±180 degrees	Basic	0.0054931640625	1000
	True Heading	6.1.6.33	314	15	±180 degrees	Basic	0.0054931640625	1000
	Mag Var	6.1.6.25	147	12	±180 degrees	Basic	0.0439453	1000
	FMC (Nav Mode)	6.1.6.6.2	266	Type 2	N/A	Basic	N/A.	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-8: Low Speed Type 1 FMS (using internal EGPWS Magnetic Variation)

CHANNEL RX429-5	**CONNECT TO: FMS-1 *(Low-Speed)***		**Fault Designation: FMC BUS 1 Bus Type: Basic**					
A = J1A-17	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-18	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000
	True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000
	Discrete Word (Nav Mode)	6.1.6.6.2	266	Type 2	N/A	Basic	N/A.	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-9: Hi Speed Type 1 FMS (using internal EGPWS Magnetic Variation)

Same as Table 8 except that the FMS bus is high speed.

Table 5.2.6-10: Low Speed Type 2 FMS (using internal EGPWS Magnetic Variation)

CHANNEL RX429-5	**CONNECT TO: FMS-1 *Low-Speed)***		**Fault Designation: FMC BUS 1 Bus Type: Basic**					
A = J1A-17	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-18	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000
	True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-11: High Speed Type 2 FMS (using internal EGPWS Magnetic Variation)

Same as Table 10 except that the FMS bus is high speed.

Table 5.2.6-12: Low Speed Type 1 FMS #2 (using internal EGPWS Magnetic Variation)

CHANNEL RX429-2	**CONNECT TO: FMS-2 *(Low-Speed)***		**Fault Designation: FMC BUS 2 Bus Type: Basic**					
A = J2-C08	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J2-C09	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000
	True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000
	Discrete Word (Nav Mode)	6.1.6.6.2	266	Type 2	N/A	Basic	N/A.	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-13: Hi Speed Type 1 FMS #2 (using internal EGPWS Magnetic Variation)

Same as Table 12 except that the FMS bus is high speed.

Table 5.2.6-14: Position Input #14 - Lo Speed Type 2 FMS #2 using internal Magnetic Variation

CHANNEL RX429-2	CONNECT TO: FMS-2 (*Low-Speed*)		Fault Designation: FMC BUS 2 Bus Type: Basic					
A = J2-C08	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J2-C09	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000
	True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-15: Position Input #15 - High Speed Type 2 FMS #2 using internal Magnetic Variation

Same as Table 14 except that the FMS bus is high speed.

Table 5.2.6-16: Position Input #16 - Low Speed ARINC 743A & 743 GPS using internal Magnetic Variation

CHANNEL RX429-6	CONNECT TO: GPS (Low Speed) per ARINC 743A-2		Fault Designation: GPS BUS 1 Bus Type: Basic					
A = J1A-22	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-23	Latitude Normal	6.1.6.16	110	20	±180 Degrees	Basic	0.00017166137695	1000
	Latitude Fine	6.1.6.17	120	11	0.000172 Deg	Basic	8.381903E-8	1000
	Longitude Normal	6.1.6.19	111	20	±180 Degrees	Basic	0.00017166137695	1000
	Longitude Fine	6.1.6.20	121	11	0.000172 Deg	Basic	8.381903E-8	1000
	Altitude	6.1.6.1	076	20	±131,072 FT	Basic	0.125	1000
	HDOP	6.1.6.10	101	15	1024	Basic	0.03125	1000
	VDOP	6.1.6.34	102	15	1024	Basic	0.03125	1000
	*VFOM	6.1.6.35	136	18	32768 ft	Basic	0.125	1000
	*HFOM	6.1.6.11	247	18	16 nm	Basic	0.000061035	1000
	Ground Speed	6.1.6.9	112	15	±4096 Knots	Basic	0.125	1000
	True Track	6.1.6.31	103	15	±180 Degrees	Basic	0.0054931640625	1000
	**Sensor Status	6.1.6.30	273	19	Discrete Wd	Basic	n/a	1000
	Horizontal Int. Limit	6.1.6.7	130	17	16 nm	Basic	0.00012207	1000
	*This is 743A format. See below to activate 743 format. **This label is not required. Data used if present.							

If the ARINC 743 GPS Select Program Pin Option is selected in Category 12 (refer to section 5.2.12) then VFOM and HFOM will be expected in the following format on this channel.

ARINC	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
743	VFOM	6.1.6.35.1	136	15	1024 meters	Basic	0.03125	1000
DATA	HFOM	6.1.6.11.1	247	15	1024 meters	Basic	0.03125	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-17: Position Input #17 - High Speed ARINC 743A and 743 GPS using internal Magnetic Variation

Same as Table 16 except that the GPS bus is high speed.

Table 5.2.6-18: Position Input #18 - Low Speed ARINC 743A & 743 GPS #2 using internal Magnetic Variation

CHANNEL RX429-2	CONNECT TO: GPS (Low Speed) per ARINC 743A-2		Fault Designation: GPS BUS 2 Bus Type: Basic					
A = J2-C08 B = J2-C09	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	Latitude Normal	6.1.6.16	110	20	±180 Degrees	Basic	0.00017166137695	1000
	Latitude Fine	6.1.6.17	120	11	0.000172 Deg	Basic	8.381903E-8	1000
	Longitude Normal	6.1.6.19	111	20	±180 Degrees	Basic	0.00017166137695	1000
	Longitude Fine	6.1.6.20	121	11	0.000172 Deg	Basic	8.381903E-8	1000
	Altitude	6.1.6.1	076	20	±131,072 FT	Basic	0.125	1000
	HDOP	6.1.6.10	101	15	1024	Basic	0.03125	1000
	VDOP	6.1.6.34	102	15	1024	Basic	0.03125	1000
	*VFOM	6.1.6.35	136	18	32768 ft	Basic	0.125	1000
	*HFOM	6.1.6.11	247	18	16 nm	Basic	0.000061035	1000
	Ground Speed	6.1.6.9	112	15	±4096 Knots	Basic	0.125	1000
	True Track	6.1.6.31	103	15	±180 Degrees	Basic	0.0054931640625	1000
	**Sensor Status	6.1.6.30	273	19	Discrete Wd	Basic	n/a	1000
	Horizontal Int. Limit	6.1.6.7	130	17	16 nm	Basic	0.00012207	1000
	*This is 743A format. See below to activate 743 format. **This label is not required. Data used if present.							

If the ARINC 743 GPS Select Program Pin Option is selected in Category 12 (refer to section 5.2.12) then VFOM and HFOM will be expected in the following format on this channel.

ARINC	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
743	VFOM	6.1.6.35.1	136	15	1024 meters	Basic	0.03125	1000
DATA	HFOM	6.1.6.11.1	247	15	1024 meters	Basic	0.03125	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-19: Position Input #19 - High Speed ARINC 743A and 743 GPS #2 using internal Magnetic Variation

Same as Table 18 except that the GPS bus is high speed.

Table 5.2.6-20: Position Input #20 – Internal GPS using internal Magnetic Variation

CHANNEL RS-232	Internal GPS [XPGPS_Int] = 1		Fault Designation: INTERNAL GPS Bus Type: Basic					
Internal	Data	Reference	ID/byte	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Latitude	6.1.6.39	15/1-4	32	±180 Degrees	Basic	real single-precision	1000
	Longitude	6.1.6.39	15/5-8	32	±180 Degrees	Basic	real single-precision	1000
	HP Error	6.1.6.39	15/9-12	32	meters	Basic	real single-precision	1000
	Altitude	6.1.6.40	16/1-4	32	meters	Basic	real single-precision	1000
	VP Error	6.1.6.40	16/5-8	32	meters	Basic	real single-precision	1000
	Ground Speed	6.1.6.41	17/1-4	32	meters/sec	Basic	real single-precision	1000
	Track Angle	6.1.6.41	17/5-8	32	360 Degrees	Basic	real single-precision	1000
	Vertical Speed	6.1.6.42	18/9-12	32	meters/sec	Basic	real single-precision	1000
	GPS State	6.1.6.43	1C/0	8	Discrete Wd	Basic	n/a	1000
	Integrity State	6.1.6.43	IC/1	8	Discrete Wd	Basic	n/a	1000
	Error Status	6.1.6.43	IC/6-7	8	Discrete Wd	Basic	n/a	1000

Configuration Data	Value	Reference Section
Dead Reckoning[1]	Enabled	SRD 9.3.1.R20[2]

1) Added in –214 mod 1.

2) For Honeywell internal use only.

Table 5.2.6-21: Position Input #21 – External RS232 GPS using internal Magnetic Variation

CHANNEL RS-232	CONNECT TO: RS232 GPS Output or simulation [XPGPS_Int] = 0		Fault Designation: GPS BUS Bus Type: Basic					
External	Data	Reference	ID/byte	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
J2-A04 (cm)	Latitude	6.1.6.39	15/1-4	32	±180 Degrees	Basic	real single-precision	1000
J2-A05 (Tx)	Longitude	6.1.6.39	15/5-8	32	±180 Degrees	Basic	real single-precision	1000
J2-A06 (Rx)	HP Error	6.1.6.39	15/9-12	32	meters	Basic	real single-precision	1000
	Altitude	6.1.6.40	16/1-4	32	meters	Basic	real single-precision	1000
	VP Error	6.1.6.40	16/5-8	32	meters	Basic	real single-precision	1000
	Ground Speed	6.1.6.41	17/1-4	32	meters/sec	Basic	real single-precision	1000
	Track Angle	6.1.6.41	17/5-8	32	360 Degrees	Basic	real single-precision	1000
	Vertical Speed	6.1.6.42	18/9-12	32	meters/sec	Basic	real single-precision	1000
	GPS State	6.1.6.43	1C/0	8	Discrete Wd	Basic	n/a	1000
	Integrity State	6.1.6.43	IC/1	8	Discrete Wd	Basic	n/a	1000
	Error Status	6.1.6.43	IC/6-7	8	Discrete Wd	Basic	n/a	1000

* Slowest acceptable update rate in milliseconds.

Notes:

- Currently this position source is only available via ID 2.
- Can not be used with a Terrain Display as no heading source is available via ID 2.

Table 5.2.6-22: High Speed INS with GPS and Nav Mode (LTN –92 MOD)

CHANNEL RX429-4	CONNECT TO: INS (High Speed)		Fault Designation: IRS BUS 1 Bus Type: Basic					
A = J1A-11	GPS Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-12	Latitude	6.1.6.16	110	20	±180 Degrees	Basic	0.00017166137695	1000
	Latitude Fine[1]	6.1.6.17	120	11	0.000172 Deg	Basic	8.381903E-8	1000
	Longitude	6.1.6.19	111	20	±180 Degrees	Basic	0.00017166137695	1000
	Longitude Fine[1]	6.1.6.20	121	11	0.000172 Deg	Basic	8.381903E-8	1000
	Altitude	6.1.6.1	076	20	±131,072 FT	Basic	0.125	1000
	HDOP	6.1.6.10	101	15	1024	Basic	0.03125	1000
	VDOP	6.1.6.34	102	15	1024	Basic	0.03125	1000
	VFOM	6.1.6.35	136	18	32768 ft	Basic	0.125	1000
	HFOM	6.1.6.11	247	18	16 nm	Basic	0.000061035	1000
	Ground Speed	6.1.6.9	112	15	±4096 Knots	Basic	0.125	1000
	True Track	6.1.6.31	103	15	±180 Degrees	Basic	0.0054931640625	1000
	Sensor Status	6.1.6.30	273	19	Discrete Wd	Basic	n/a	1000
	Horizontal Int. Limit	6.1.6.7	130	17	16 nm	Basic	0.00012207	1000
	FMS Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	Latitude	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000
	True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000
	Discrete Word (Nav Mode)	6.1.6.6.2	302	Type 2	N/A	Basic	N/A.	1000

Notes:

- Category 4 (section 5.2.4) would be used to enable the Attitude/Acceleration inputs from the IRS/INS.
- Even though this bus may be connected to an INS, the fault designation remains IRS to be compatible with the designator activated when category 4 defines this channel for Attitude/Accel inputs.
- For an INS without either GPS or Nav Mode data then category 4 would be used to activate the INS Attitude/Accel inputs and this category would be used to activate ID #23. The 2 channels would then be connected to the same INS output port.
- For an INS with GPS but no Nav Mode data then category 4 would be used to activate the INS Attitude/Accel inputs and this category would be used to activate ID #64. The 3 channels would then be connected to the same INS output port.

* Slowest acceptable update rate in milliseconds.

[1] Latitude Fine and Longitude Fine are required to support the Runway Awareness Advisory System (RAAS). These signals are not supported prior to 965-1076-0xx-219-219.

Table 5.2.6-23: Position Input #23 - High Speed ARINC 704 IRS

Note: Category 4 (section 5.2.4) would be used to enable the Attitude/Acceleration inputs from the IRS.

CHANNEL RX429-4	CONNECT TO: IRU (Hi-Speed)		Fault Designation: IRS BUS 1 Bus Type: Basic					
A = J1A-11 B = J1A-12	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	Latitude	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Magnetic Track	6.1.6.23	317	15	±180 degrees	Basic	0.0054931640625	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000
	True Track	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-24: Position Input #24 - Magnetic Heading Synchro

SIGNAL	CONNECTION	REFERENCE	SUMMARY DATA		
Magnetic Heading, DG	(X) = J2-J08 (Y) = J2-J09 (Z) = J2-J10 Reference (H) = J2-G10 (C) = J2-G11	6.3.6.1	Format: 5 Wire Synchro with Validity Flag Input Type: Basic Fault Designation: MAGNETIC HEADING FAULT Validity: Magnetic Heading Valid (+28V) Limitation: Can not use Attitude #2, conflict with valid flag.		
PIN FUNCTION	**CONNECTION**	**PIN TYPE**	**DESIGNATION REF**	**Polarity/Configuration**	**Summary Data**
Magnetic Heading Valid (+28V)	J2-D04 (NOTE)	Input	28v Disc 04	+28V = Valid 0V = Not Valid	

NOTE: Not compatible with Category 4, ID7 (Attitude/Acceleration).

Table 5.2.6-25: Position Input #25 - Low Speed CMA900-3 (GPS without Groundspeed)

CHANNEL RX429-6	CONNECT TO: GPS (Low Speed)		Fault Designation: GPS BUS 1 Bus Type: Basic					
A = J1A-22 B = J1A-23	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	Latitude Normal	6.1.6.16	110	20	±180 Degrees	Basic	0.00017166137695	1000
	Latitude Fine	6.1.6.17	120	11	0.000172 Deg	Basic	8.381903E-8	1000
	Longitude Normal	6.1.6.19	111	20	±180 Degrees	Basic	0.00017166137695	1000
	Longitude Fine	6.1.6.20	121	11	0.000172 Deg	Basic	8.381903E-8	1000
	Altitude	6.1.6.1	076	20	±131,072 FT	Basic	0.125	1000
	HDOP	6.1.6.10	101	15	1024	Basic	0.03125	1000
	VDOP	6.1.6.34	102	15	1024	Basic	0.03125	1000
	*VFOM	6.1.6.35	136	18	32768 ft	Basic	0.125	1000
	*HFOM	6.1.6.11	247	18	16 nm	Basic	0.000061035	1000
	True Track	6.1.6.31	103	15	±180 Degrees	Basic	0.0054931640625	1000
	Sensor Status	6.1.6.30	273	19	Discrete Wd	Basic	n/a	1000
	Horizontal Int. Limit	6.1.6.7	130	17	16 nm	Basic	0.00012207	
	*This is 743A format. See below to activate 743 format.							

If the ARINC 743 GPS Select Program Pin Option is selected in Category 12 (refer to section 5.2.12) then VFOM and HFOM will be expected in the following format on this channel.

ARINC	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
743	VFOM	6.1.6.35.1	136	15	1024 meters	Basic	0.03125	1000
DATA	HFOM	6.1.6.11.1	247	15	1024 meters	Basic	0.03125	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-26: Hi Speed FMS #1 with Mag Trk/No True Hdg, DAU #1 with True Hdg

CHANNEL RX429-5	**CONNECT TO: FMC #1 (Hi-Speed)**		**Fault Designation: FMC BUS 1 Bus Type: Basic**					
A = J1A-17	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-18	Latitude - Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude - Pres. Pos.	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Magnetic Track Angle	6.1.6.23	317	15	±180 degrees	Basic	0.0054931640625	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	Track Angle - True	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000
CHANNEL RX429-3	**CONNECT TO: DAU #1 (Hi-Speed)**		**Fault Designation: DAU BUS 1 Bus Type: Basic**					
A = J2-K08	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J2-K09	*True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000
	*Uses all 3 SDIs							

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-27: Hi Speed FMS #2 with Mag Trk/No True Hdg, DAU #2 with True Hdg

CHANNEL RX429-2	**CONNECT TO: FMC #2 (Hi-Speed)**		**Fault Designation: FMC BUS 2 Bus Type: Basic**					
A = J2-C08	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J2-C09	Latitude - Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude - Pres. Pos.	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Magnetic Track Angle	6.1.6.23	317	15	±180 degrees	Basic	0.0054931640625	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	Track Angle - True	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000
CHANNEL RX429-1	**CONNECT TO: DAU #2 (Hi-Speed)**		**Fault Designation: DAU BUS 2 Bus Type: Basic**					
A = J2-C06	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J2-C07	*True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000
	*Uses all 3 SDIs							

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-28: Low Speed FMS (Type 1) (FMS-800)

CHANNEL RX429-5	**CONNECT TO: FMC (Low-Speed)**		**Fault Designation: FMC BUS 1 Bus Type: Basic**					
A = J1A-17	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-18	FMS NavMode – Type 1	6.1.6.6.1	270	N/A	N/A	Basic	N/A	1000
	Latitude - Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude - Pres. Pos.	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Magnetic Track Angle	6.1.6.23	317	15	±180 degrees	Basic	0.0054931640625	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000
	Track Angle - True	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-29: Low Speed FMS (Type 1) (FMS-800)

CHANNEL RX429-2	CONNECT TO: FMC (Low-Speed)		Fault Designation: FMC BUS 2 Bus Type: Basic					
A = J2-C08 B = J2-C09	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	FMS NavMode – Type 1	6.1.6.6.1	270	N/A	N/A	Basic	N/A	1000
	Latitude - Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude - Pres. Pos.	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Magnetic Track Angle	6.1.6.23	317	15	±180 degrees	Basic	0.0054931640625	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000
	Track Angle - True	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-30: High Speed FMS (Type 2)

CHANNEL RX429-5	CONNECT TO: FMS-1 ***(High-Speed)***		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17 B = J1A-18	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	Altitude (GPS)	6.1.6.1	076	20	131,072 feet	Basic	0.125	1000
	Horizontal Integrity Limit	6.1.6.7	130	17	16 nm	Basic	0.00012207	1000
	VFOM (GPS)	6.1.6.35.1	136	15	1024 meters	Basic	0.03125	1000
	Magnetic Var	6.1.6.25	147	12	± 180 Degrees	Basic	0.0439453	1000
	HFOM (GPS)	6.1.6.11	247	18	16 nm	Basic	0.000061035	1000
	Latitude-Present Position (GPS)	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position (GPS)	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000
	True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000
CHANNEL RX429-2	**CONNECT TO: FMS-2 *(High -Speed)***		**Fault Designation: FMC BUS 2 Bus Type: Basic**					
A = J2-C08 B = J2-C09	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	Altitude (GPS)	6.1.6.1	076	20	131,072 feet	Basic	0.125	1000
	Horizontal Integrity Limit	6.1.6.7	130	17	16 nm	Basic	0.00012207	1000
	VFOM (GPS)	6.1.6.35.1	136	15	1024 meters	Basic	0.03125	1000
	Magnetic Var	6.1.6.25	147	12	± 180 Degrees	Basic	0.0439453	1000
	HFOM (GPS)	6.1.6.11	247	18	16 nm	Basic	0.000061035	1000
	Latitude-Present Position (GPS)	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position (GPS)	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000
	True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000

Table 5.2.6-31: Hi Speed Type 3 FMS-1

CHANNEL RX429-5	CONNECT TO: FMC-1 (Hi-Speed)		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-18	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000
	Magnetic Heading	6.1.6.22	320	15	±180 degrees	Basic	0.0054931640625	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-32: Hi Speed Type 3 FMS-2

CHANNEL RX429-2	CONNECT TO: FMS-2 (Hi-Speed)		Fault Designation: FMC BUS 2 Bus Type: Basic					
A = J2-C08	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J2-C09	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000
	Magnetic Heading	6.1.6.22	320	15	±180 degrees	Basic	0.0054931640625	1000

*Slowest acceptable update rate in milliseconds.

Table 5.2.6-33: GNS/CDU-XLS #1 Low Speed FMS/GPS Data

CHANNEL RX429-5	CONNECT TO: FMS-1 (Low-Speed) (Radio Tuning Bus)		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17	FMC Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-18	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Heading	6.1.6.33	314	15	±180 degrees	Basic	0.0054931640625	1000
	Discrete Word (Nav Mode)	6.1.6.6.2	266	Type 2	N/A	Basic	N/A	1000
	Magnetic Heading	6.1.6.22	320	15	±180 degrees	Basic	0.0054931640625	1000
	True Track	6.1.6.32	313	15	±180 degrees	Basic	0.0054931640625	1000
	GPS Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	Latitude	6.1.6.16	110	20	±180 Degrees	Basic	0.00017166137695	1000
	Latitude Fine[1]	6.1.6.17	120	11	0.000172 Deg	Basic	8.381903E-8	1000
	Longitude	6.1.6.19	111	20	±180 Degrees	Basic	0.00017166137695	1000
	Longitude Fine[1]	6.1.6.20	121	11	0.000172 Deg	Basic	8.381903E-8	1000
	Altitude	6.1.6.1	076	20	±131,072 FT	Basic	0.125	1000
	VFOM	6.1.6.35	136	18	32768 ft	Basic	0.125	1000
	HFOM	6.1.6.11	247	18	16 nm	Basic	0.000061035	1000
	Ground Speed	6.1.6.9	112	15	±4096 Knots	Basic	0.125	1000
	True Track	6.1.6.31	103	15	±180 Degrees	Basic	0.0054931640625	1000
	Sensor Status	6.1.6.30	273	19	Discrete Wd	Basic	N/A	1000
	Horizontal Int. Limit	6.1.6.7	130	17	16 nm	Basic	0.00012207	1000
	Vertical Velocity	6.1.3.1.2	165	15	±32768 fpm	Basic	1.0	1000

Note: Use of this input requires the XLS mod to add GPS data to its Radio Tuning Bus.
*Slowest acceptable update rate in milliseconds.

[1] Latitude Fine and Longitude Fine are required to support the Runway Awareness Advisory System (RAAS). These signals are not supported prior to 965-1076-0xx-219-219.

Table 5.2.6-34: GNS/CDU-XLS #2 Low Speed FMS/GPS Data

CHANNEL RX429-2	CONNECT TO: FMS-2 (Low-Speed) (Radio Tuning Bus)		Fault Designation: FMC BUS 2 Bus Type: Basic					
A = J2-C08 B = J2-C09	FMC Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Heading	6.1.6.33	314	15	±180 degrees	Basic	0.0054931640625	1000
	Discrete Word (Nav Mode)	6.1.6.6.2	266	Type 2	N/A	Basic	N/A	1000
	Magnetic Heading	6.1.6.22	320	15	±180 degrees	Basic	0.0054931640625	1000
	True Track	6.1.6.32	313	15	±180 degrees	Basic	0.0054931640625	1000
	GPS Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	Latitude	6.1.6.16	110	20	±180 Degrees	Basic	0.00017166137695	1000
	Latitude Fine[1]	6.1.6.17	120	11	0.000172 Deg	Basic	8.381903E-8	1000
	Longitude	6.1.6.19	111	20	±180 Degrees	Basic	0.00017166137695	1000
	Longitude Fine[1]	6.1.6.20	121	11	0.000172 Deg	Basic	8.381903E-8	1000
	Altitude	6.1.6.1	076	20	±131,072 FT	Basic	0.125	1000
	VFOM	6.1.6.35	136	18	32768 ft	Basic	0.125	1000
	HFOM	6.1.6.11	247	18	16 nm	Basic	0.000061035	1000
	Ground Speed	6.1.6.9	112	15	±4096 Knots	Basic	0.125	1000
	True Track	6.1.6.31	103	15	±180 Degrees	Basic	0.0054931640625	1000
	Sensor Status	6.1.6.30	273	19	Discrete Wd	Basic	N/A	1000
	Horizontal Int. Limit	6.1.6.7	130	17	16 nm	Basic	0.00012207	1000
	Vertical Velocity	6.1.3.1.2	165	15	±32768 fpm	Basic	1.0	1000

Note: Use of this input requires the XLS mod to add GPS data to its Radio Tuning Bus.
*Slowest acceptable update rate in milliseconds.

Table 5.2.6-35: Low Speed FMS (Type 2) (Navy C-2A CDNU)

CHANNEL RX429-5	CONNECT TO: FMS-1 ***(Low-Speed)***		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17 B = J1A-18	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	Altitude (GPS)	6.1.6.1	076	20	131,072 feet	Basic	0.125	1000
	VFOM (GPS)	6.1.6.35	136	18	32768 feet	Basic	0.125	1000
	Magnetic Var (FMS)	6.1.6.25	147	12	± 180 Degrees	Basic	0.0439453	1000
	Latitude-Present Pos (FMS)	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Pres Pos (FMS)	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed (FMS)	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle (FMS)	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000
	True Heading(FMS)	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000
	UTC (Time) (GPS)	6.1.6.38	125	19	hh mm .m	Basic	n/a	1000
	Date (GPS)	6.1.6.2	260	19	Mm dd	Basic	n/a	1000

* Slowest acceptable update rate in milliseconds.
Note: Designed for use with Category 3 ID 27.

[1] Latitude Fine and Longitude Fine are required to support the Runway Awareness Advisory System (RAAS). These signals are not supported prior to 965-1076-0xx-219-219.

Table 5.2.6-36: Position Input #36 - High Speed ARINC 743A and 743 GPS using internal Magnetic Variation

CHANNEL RX429-4	CONNECT TO: GPS (High Speed) per ARINC 743A-2		Fault Designation: IRS BUS 2 Bus Type: Basic					
A = J1A-11 B = J1A-12	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	Latitude Normal	6.1.6.16	110	20	±180 Degrees	Basic	0.00017166137695	1000
	Latitude Fine	6.1.6.17	120	11	0.000172 Deg	Basic	8.381903E-8	1000
	Longitude Normal	6.1.6.19	111	20	±180 Degrees	Basic	0.00017166137695	1000
	Longitude Fine	6.1.6.20	121	11	0.000172 Deg	Basic	8.381903E-8	1000
	Altitude	6.1.6.1	076	20	±131,072 FT	Basic	0.125	1000
	HDOP	6.1.6.10	101	15	1024	Basic	0.03125	1000
	VDOP	6.1.6.34	102	15	1024	Basic	0.03125	1000
	*VFOM	6.1.6.35	136	18	32768 ft	Basic	0.125	1000
	*HFOM	6.1.6.11	247	18	16 nm	Basic	0.000061035	1000
	Ground Speed	6.1.6.9	112	15	±4096 Knots	Basic	0.125	1000
	True Track	6.1.6.31	103	15	±180 Degrees	Basic	0.0054931640625	1000
	**Sensor Status	6.1.6.30	273	19	Discrete Wd	Basic	n/a	1000
	Horizontal Int. Limit	6.1.6.7	130	17	16 nm	Basic	0.00012207	1000
	*This is 743A format. See below to activate 743 format. **This label is not required. Data used if present.							

If the ARINC 743 GPS Select Program Pin Option is selected in Category 12 (refer to section 5.2.12) then VFOM and HFOM will be expected in the following format on this channel.

ARINC	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
743	VFOM	6.1.6.35.1	136	15	1024 meters	Basic	0.03125	1000
DATA	HFOM	6.1.6.11.1	247	15	1024 meters	Basic	0.03125	1000

* Slowest acceptable update rate in milliseconds.

Note 1: Table 5.2.6-36 developed to support concurrent usage with table 5.2.4-11.

Table 5.2.6-37: Position Input #37 - High Speed ARINC 743A & 743 GPS using internal Magnetic Variation

CHANNEL RX429-6	CONNECT TO: GPS (High Speed) per ARINC 743A-2		Fault Designation: IRS BUS 1 Bus Type: Basic					
A = J1A-22 B = J1A-23	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
	Latitude Normal	6.1.6.16	110	20	±180 Degrees	Basic	0.00017166137695	1000
	Latitude Fine	6.1.6.17	120	11	0.000172 Deg	Basic	8.381903E-8	1000
	Longitude Normal	6.1.6.19	111	20	±180 Degrees	Basic	0.00017166137695	1000
	Longitude Fine	6.1.6.20	121	11	0.000172 Deg	Basic	8.381903E-8	1000
	Altitude	6.1.6.1	076	20	±131,072 FT	Basic	0.125	1000
	HDOP	6.1.6.10	101	15	1024	Basic	0.03125	1000
	VDOP	6.1.6.34	102	15	1024	Basic	0.03125	1000
	*VFOM	6.1.6.35	136	18	32768 ft	Basic	0.125	1000
	*HFOM	6.1.6.11	247	18	16 nm	Basic	0.000061035	1000
	Ground Speed	6.1.6.9	112	15	±4096 Knots	Basic	0.125	1000
	True Track	6.1.6.31	103	15	±180 Degrees	Basic	0.0054931640625	1000
	**Sensor Status	6.1.6.30	273	19	Discrete Wd	Basic	n/a	1000
	Horizontal Int. Limit	6.1.6.7	130	17	16 nm	Basic	0.00012207	1000
	*This is 743A format. See below to activate 743 format. **This label is not required. Data used if present.							

If the ARINC 743 GPS Select Program Pin Option is selected in Category 12 (refer to section 5.2.12) then VFOM and HFOM will be expected in the following format on this channel.

ARINC	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
743	VFOM	6.1.6.35.1	136	15	1024 meters	Basic	0.03125	1000
DATA	HFOM	6.1.6.11.1	247	15	1024 meters	Basic	0.03125	1000

* Slowest acceptable update rate in milliseconds.

Note 1: Table 5.2.6-37 developed to support concurrent usage with table 5.2.4-11.

Table 5.2.6-38: High Speed FMS (Type 1) (FMS-800/VIA)

CHANNEL RX429-5	CONNECT TO: FMC (High-Speed)		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-18	FMS NavMode – Type 1	6.1.6.6.1	270	N/A	N/A	Basic	N/A	1000
	Latitude - Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude - Pres. Pos.	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Magnetic Track Angle	6.1.6.23	317	15	±180 degrees	Basic	0.0054931640625	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000
	Track Angle - True	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000

Slowest acceptable update rate in milliseconds.

Table 5.2.6-39: HighSpeed FMS (Type 1) (FMS-800/VIA)

CHANNEL RX429-2	CONNECT TO: FMC (High-Speed)		Fault Designation: FMC BUS 2 Bus Type: Basic					
A = J2-C08	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J2-C09	FMS NavMode – Type 1	6.1.6.6.1	270	N/A	N/A	Basic	N/A	1000
	Latitude - Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude - Pres. Pos.	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Magnetic Track Angle	6.1.6.23	317	15	±180 degrees	Basic	0.0054931640625	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000
	Track Angle - True	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000

*Slowest acceptable update rate in milliseconds.

Table 5.2.6-40: HighSpeed FMS (Type 2) with VSD

CHANNEL RX429-5	CONNECT TO: FMC (Hi-Speed)		Fault Designation: FMC BUS 1 Bus Type: Basic					
A = J1A-17	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J1A-18	Latitude - Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude - Pres. Pos.	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Heading	6.1.6.33	314	12	±180 degrees	Basic	0.0439453125	1000
	Track Angle – True	6.1.6.32	313	12	±180 degrees	Basic	0.0439453125	1000
	FMS RNP	6.1.6.45	106	14	128 NM	Basic	0.007813	1000

Configuration Data	Type	Reference Section
VSD Enable	True	SRD 6.7.10.1

*Slowest acceptable update rate in milliseconds.

Note: This FMS type is required for activation of VSD.

Table 5.2.6-41: High Speed FMS (Type 1) Dual IOC

CHANNEL RX429-16	**CONNECT TO: IOC-1 *(Hi-Speed)* *L-IOC (L-GP-5)***		**Fault Designation: IOC BUS 1 Bus Type: Basic**					
A = J2-C13	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J2-C14	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle	6.1.6.32	313	15	±180 degrees	Basic	0.0054931640625	1000
	True Heading	6.1.6.33	314	15	±180 degrees	Basic	0.0054931640625	1000
	FMC (Nav Mode)	6.1.6.6.2	302	Type 2	N/A	Basic	N/A.	1000
	Magnetic Heading	6.1.6.22	320	15	±180 degrees	Basic	0.0054931640625	1000
CHANNEL RX429-17	**CONNECT TO: IOC-2 *(Hi-Speed)* R-IOC (R-GP-5)**		**Fault Designation: IOC BUS 2 Bus Type: Basic**					
A = J2-B14	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J2-B15	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle	6.1.6.32	313	15	±180 degrees	Basic	0.0054931640625	1000
	True Heading	6.1.6.33	314	15	±180 degrees	Basic	0.0054931640625	1000
	FMC (Nav Mode)	6.1.6.6.2	302	Type 2	N/A	Basic	N/A	1000
	Magnetic Heading	6.1.6.22	320	15	±180 degrees	Basic	0.0054931640625	1000

* Slowest acceptable update rate in milliseconds.

Table 5.2.6-42: High Speed FMS (Type 1) Single IOC

CHANNEL RX429-16	**CONNECT TO: IOC-1 *(Hi-Speed)* *L-IOC (L-GP-5)***		**Fault Designation: IOC BUS 1 Bus Type: Basic**					
A = J2-C13	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	*Rate (ms)
B = J2-C14	Latitude-Present Position	6.1.6.15	310	20	±180 degrees	Basic	0.00017166137695	1000
	Longitude-Present Position	6.1.6.18	311	20	±180 degrees	Basic	0.00017166137695	1000
	Ground Speed	6.1.6.8	312	15	±4096 Knots	Basic	0.125	1000
	True Track Angle	6.1.6.32	313	15	±180 degrees	Basic	0.0054931640625	1000
	True Heading	6.1.6.33	314	15	±180 degrees	Basic	0.0054931640625	1000
	Magnetic Heading	6.1.6.22	320	15	±180 degrees	Basic	0.0054931640625	1000
	FMC (Nav Mode)	6.1.6.6.2	302	Type 2	N/A	Basic	N/A	1000

*Slowest acceptable update rate in milliseconds.

5.2.7 Category 7, Terrain Display Select (Ppin 19, Ppin 2)

Document Revision History, Section 5.2.7

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/11/97 - A Loos	Table 5.2.7	Change all references in TA&D Picture Output Bus Type to Table 5.2.7.3-0.	202	202
11/17/97 - G. Ostrom	Table 5.2.7	Removed TA&D Pop up from table and updated table to use new free slots. Added TA&D Display type 2 and Control type 2 for no display config.	202	202
11/18/97 - G. Ostrom	Table 5.2.7.3	Updated paragraph title to match table 5.2.7.	202	202
11/18/97 - A Loos	Table 5.2.7.3	Add TX429-2 entry, even though it is not available. This allows use of common DITS output configuration files.	202	202
11/20/97 - A Loos	All	Add words to describe scope of category. Add effectivity to table 5.2.1. Add "Display Select Discrete" to TA&D Control Input Type, 5.2.7.1-x, Tables	202	202
11/21/97 - A Loos	5.2.7	Add Display Select and WXR On to list of signals defined in the category.	202	202
12/17/97 - G Ostrom	5.2.7.1	SCR 2456, Added note to Auto Pop Up configuration/ selection in tables 5.2.7.1-0 and 5.2.7.1-1.	202	202
01/08/98 - G Ostrom	5.2.7	SCR 2523, Added new 429 Output Bus Type 1 table 5.2.7.3-1. Revised table 5.2.7 ID 2, 429 Output Bus Type to 1. Revised table 5.2.7.3-0 transmit label set to exclude Pitch and Roll.	202	202
02/19/98 – A. Anderson	Table 5.2.7 Table 5.2.7.1-3 Table 5.2.7.2-4, 5	SCR 2580: Added ID6, 7 and 8 to Table 5.2.7. Added Display Config. Data Group 3. Added TA&D Control Input Group 4 and 5. Updated format for Word97.	204	204
02/26/98 – B. Breen	Table 5.2.7 Table 5.2.7.1-4 Table 5.2.7.2-6	SCR 2591: Added ID 9 to Table 5.2.7 Added display config data group 4. Added TA&D control input group 6	204	204
03/02/98 – A. Anderson	Table 5.2.7 Table 5.2.7.1-3 Table 5.2.7.1-6 Table 5.2.7.2-5	SCR 2580: Added ID 10, 11, 12 & 13 to Table 5.2.7. Changed ID 2 from Bendix PPI to CAS KA-C90 Bendix PPI. Changed ID 6 from Collins WXA-1000 to Collins ProLine II. Changed ID7 TA&D Control Input Type from 5 to 4. Changed Display Config. Data Group 3 to Collins Pro-Line II. Added Display Config. Data Group 6. Deleted TA&D Control Input Group 5. Added dual inputs to TA&D Control Input Group 6.	204	204
03/06/98 – A. Anderson	Table 5.2.7 Table 5.2.7.1-0 Table 5.2.7.1-1 Table 5.2.7.1-3 Table 5.2.7.1-5	SCR 2580: Updated ID 8 & 12 and application note for ID 2, 6 & 7 in Table 5.2.7. Deleted ID 13. Updated Display Type and Moving Marker value in Display Config. Data Group 0 Updated Display Type in Display Config. Data Groups 1 & 3. Added Display Config. Data Group 5	204	204
03/09/98 – B. Breen	Table 5.2.7.2-6	SCR 2591: Corrected TA&D control input group 6 bus pin numbers.	204	204
03/12/98 – B. Breen	Table 5.2.7.1-4	SCR 2591: Corrected select/deselect/popup rules. Added an overlay TERR, left justified and up a little.	204	204

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
03/16/98 – A. Anderson	Table 5.2.7.1-5 Table 5.2.7.1-6	SCR 2580: Modified display type value and reference sections for Display Config. Data Group 5 Added reference for Display Config. Data Group 6	204	204
03/19/98 – P. Blankas	Table 5.2.7 Table 5.2.7.1-7	SCR 2616: Created Display Config. Data Group 7 Updated Table 5.2.7		
03/20/98 – A. Anderson	Table 5.2.7	SCR 2580: Changed Application Note in Table 5.2.7 ID 6 and 8 to Single Collins Pro-Line II Added ID 14 & 15 to Table 5.2.7.	204	204
03/20/98 – G. Ostrom	Table 5.2.7.1-0 to -7	Updated all occurrences of the ICD reference for Terrain Inhibit Monitoring	204	204
03/23/98 – A. Anderson	Table 5.2.7 Table 5.2.7.2-4	SCR 2580: Removed single display control input types. Removed Table 5.2.7.2-4.	204	204
03/30/98 – A. Anderson	Table 5.2.7.1-7	SCR 2580: Added remaining information to display configuration data group 7 table.	204	204
04/03/98 – B. Breen	Table 5.2.7.2-6	SCR 2591: Corrected WXR on discretes polarity/configuration.	204	204
04/21/98 – G. Ostrom	5.2.7	Added note about possible TA&D Disable affect on Envelope Modulation.	-	-
05/01/98 – G. Ostrom	5.2.7	SCR 3877: Added display config ID 12.	future	future
06/12/98 – G. Ostrom	5.2.7 5.2.7.2-7	SCR 2535: Added ID 13 to Table 5.2.7. Added TA&D control input group 7	206	206
06/16/98 – G. Ostrom	5.2.7.2-7	SCR 2535: Removed Mode word from Table 5.2.7.2-7.	206	206
6/19/98 – N Paterson	Table 5.2.7 Table 5.2.7.1-8 Table 5.2.7.2-8	SCR 2866: Added ID type 14 to Table 5.2.7 Added Table 5.2.7.1-8 for FDS-255 Added Table 5.2.7.2-8 for FDS-255	206	206
7/14/98 – G. C. Boyd	5.2.7	Added Section Overview. Add reference to 453 & Honeywell picture bus outputs. -Placed reference to signals configured into a table. – Removed comment “(if loading permits)” and rewrote section. -Moved NOTE regarding TA&D/TCF disable to more appropriate spot following Table 5.2.7. -Removed “ICD” from section reference in groups. -Add not to SRD references saying “for Honeywell internal use”. -Removed “Selection Logic” from Display Config. Groups and changed format for individual selection items.	206	206
	Table 5.2.7 5.2.7.1,2,3	Change format of sections. Changed TA&D to “Display”. Removed “Table 5.2.7.x-x” from Groups.		
	Table: 5.2.7 5.2.7.1 Group 9	SCR 2919: Added new Display Config. Data Type 9 to ID 13 for SPZ8000 old style display that does not blank every fourth line.		
	Table 5.2.7	Removed incorrect Note 4, which stated that the same RS232 port is used for both GPS and the SCI MD/Rg bus.		
	Table 5.2.7 5.2.7.1 Group 10 5.2.7.1 Group 11	SCR 2618: Added Honeywell P708 radar display. Added ID 15; and Config. Data Group 10. Added ID 16, and Config. Data Group 11 (no auto range)		
	Table 5.2.7 5.2.7.1 Group 12	SCR 2917: Added Bendix IN182A/IN812A display Added ID 17 and Config. Data Group 12.		

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
	Table 5.2.7 5.2.7.1 Group 13	SCR 2918: Added Bendix IN842A/IN862A display Added ID 18, Config. Data Type 13.		
	Table 5.2.7 5.2.7.1 Group 14 5.2.7.2 Group 9	SCR 3038: Added EFIS 40/50 display Added ID 19 and Config. Data Group 14. Added Control Input Group 9.		
	5.2.7.3	Removed TX429-2 reference from both groups. Added comment to group 1 "For Honeywell internal use only".		
08/07/98 – Gary Boyd	5.2.7.1 Group 5	Change reference to SRD sections 8.3.R10 to R30.		
08/10/98 – MJC	5.2.7.2 Group 9	Corrected label numbers and references.		
08/12/98 – MJC	5.2.7.2 Group 8	Changed range from 640 to 320. Changed bus type to TA&D.		
08/20/98 – Gary Boyd	Revision History	Corrected SCR 2936 to 3038 in "Added EFIS 40/50…" above.		
08/28/98 – Gary Boyd	5.2.7.2 Group 6	Corrected typo in Display Type reference section .R30 changed to .R10.		
8/31/98 – N Paterson	Display *Input Control* Group 8	SCR 3058 Revise Range Label to 271 on both buses.	-206	-206
09/01/98 – N Paterson	Display *Input Control* Group 8	SCR 3058/2866 Revision to Range Label 271 deleted. Label is 273 on both buses.	-206	-206
09/09/98 – G Ostrom	5.2.7.1 Group 2	Replaced bad reference section with N/A for display type.		
09/09/98 – MJC	5.2.7.2 Group 14	SCR 2936: Changed display type SRD reference from 8.10.R10 to 8.10.R20.	-206	-206
09/09/98 – A Loos	5.2.7.1	Corrected ICD references from 6.4.1.22 to 6.4.22	-	-
09/15/98 – Gary Boyd	Table 5.2.7	Changed "No auto range" in Application Notes for ID 16 to "auto range"		
09/18/98 – Gary Boyd	Table 5.2.7 5.2.7.1 Group 15 5.2.7.2. Group 10	SCR 3125: Added new Honeywell Primus 1000 display. New display ID 20; New 5.2.7.1 Group 15, New 5.2.7.2 Group 10.	-206	-206
09/21/98 – Gary Boyd	5.2.7.2 Group 10	Corrected typo in reference for discrete word		
12 Nov 1998 – Richard auf der Springe	5.2.7.1 Group 8 5.2.7.1 Group 16	SCR 3297: Display Group 8 (FDS-255) was intended for both integrated installations with the display controlling selection and installations with the EGPWS controlling selection. Display Group 8 (ID 14) is now used only for FDS-255 installations with the display controlling selection. Created new ID 21, with new Display Group 16 for FDS-255 installations with the EGPWS controlling selection.		-208
19/NOV/98 – Gary Boyd	5.2.7.1 Group 0	SCR 3331: Change SRD display requirements reference to 8.23.R10.		-208
23/NOV/98 – S. Arnett	Table 5.2.7 5.2.7.1 Group 1	SCR 3327: Comment change only - changed ID 4 application notes from "SPZ8000 429 Md/Rng" to "SPZ8000 and EDZ805 ARINC 429 Range". Comment change only – added "and EDZ805" to "Display Configuration Group 1 (Honeywell SPZ8000, new style)". Changed reference throughout table from "SPZ8000" to "SPZ8000/EDZ805".	-	-

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
02-DEC-98 – MJC	Table 5.2.7 5.2.7.1 Group 0 5.2.7.1 Group 6 5.2.7.1 Group 7 5.2.7.1 Group 10 5.2.7.1 Group 11 5.2.7.1 Group 17 5.2.7.1 Group 18	 SCR 3331: Revised Display Configuration Group 0 for Peaks and display priority. SCR 3016: Revised Display Configuration Groups 6 & 7 for Peaks and display priority. SCR 3338: Revised Display Configuration Groups 10& 11 for Peaks and display priority. SCR 3016: Added new IDs 22 & 23 and Display Configuration Groups 17 & 18.	208	208
06-DEC-98 – Gary Boyd	5.2.7.1 Group 4	SCR 3379: Revised Display Configuration Group 4 for Peaks and display priority.	208	208
06-DEC-98 – Gary Boyd	5.2.7.1 Group 14	SCR 3378: Revised Display Configuration Group 14 for Peaks.	208	208
15-DEC-98 – Gary Boyd	5.2.7.1 Group 2	SCR 3449: Added requirement 8.0.R10 reference.	208	208
16-DEC-98 – MJC	5.7.2.1 Group 19 5.2.7.2 Group 11 5.2.7	SCR 3420: Added new Display Configuration Group and Input Control Group for Honeywell MD-80/90 EFIS. Added ID 24 to table 5.2.7.	208	208
20-Jan-99 – Mike Force	Table 5.2.7	SCR 3479: Added future Display ID for Astronautics	future	future
27-JAN-99 – MJC	5.7.2.1 Group 19	SCR 3420: Added peaks information to Display Configuration Group for Honeywell MD-80/90 EFIS.	208	208
17-FEB-99 – MST	Audit trail	SCR 3420: Updated audit trail (16-DEC-98 MJC) to include update to Table 5.2.7 for new ID 24	208	208
24-MAR-99 – A Loos	5.2.7, 5.2.7.1	Incorporate editorial/format release review corrections. Clarified *TA&D Alternate Pop Up* and *Peaks Enable* conditions in Display Configuration tables. No requirements changes.	-	-
26-MAR-99 – J. Kistler	5.2.7.1	Added note for right and left channel inputs to MFD for new style SPZ8000	-	-
07-APR-99 – D. Sawich	5.2.7.1 Group 9	SCR 3757: Function ‘Auto Range’ changed Value to “Yes, 10 NM”		210
13-APR-99 – M. Grigore	5.2.7, 5.2.7.1 Group 20, 5.2.7.2 Group 12, 5.2.7.2 Group 13	SCR 3877: Renamed ID12 and added ID26 to Table 5.2.7. Added new Display Configuration Group and Input Control Groups for AlliedSignal Picture Bus TDU and DSU.	210	210
26-APR-99 – Gary Boyd	TABLE 5.2.7 New 5.2.7.1 Group 21 5.2.7.2 Group 14 5.2.7.1 Group 9	SCR 3816: Added new Honeywell P880/660/440 ID 27, Display Group 21, and Input Control Group 14. Changed Table 5.2.7. Note 3 to remove specific display group references. Added note to *Display Group 9* that Alternate Pop Up must be selected True is this configuration is used by a P880/660/440 display. Made Input Control Group format more uniform.	210	210

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
30-APR-99 – Gary Boyd	TABLE 5.2.7 New 5.2.7 Group 22	SCR 3821: Added new display configuration for Danish Airforce C130, bolt on FDS 255 (Terrain and Peaks overlay). Changes for Table 5.2.7: Added new ID 28 Removed "TA&D and TCF Disable" column. Added "Display Type". Added new "Note 1" and renumbered the rest. Re-formatted columns and edited descriptions. Added new Display Group 22 (5.2.7 Group 22)	210	210
07-MAY-99 – P. Bateman	5.2.7.1 5.2.7.2	SCR 3877: Changed Display Configuration Group 20 to reflect DSU/TDU connections. Changed Display Input Control Group 13 to reflect range input used by DSU. Changed rates for all labels in group.	210	210
07-MAY-99 – P. Bateman	5.2.7.2	SCR 3877: Changed Display Input Control Group 12 to reflect range input used by TDU. Changed rates for all labels in group. Updated Audit trail to reflect 3877 instead of 3391. Transposed ID 12 and ID 26 in Table 5.2.7.	210	210
11-MAY-99 – Gary Boyd	TABLE 5.2.7 New 5.2.7.1 Group 23	SCR 3822: Added new display configuration for fully integrated EFIS50 display, ID 29, Display Group 23. Modified Table 5.2.7 NOTE 1 to include ARINC 453 labels 025/055.	210	210
14-MAY-99– Gary Boyd	TABLE 5.2.7	SCR 3821: Added TA&D and TCF back as a subgroup of Display Type.		
21-MAY-99 – P. Bateman	5.2.7.2	SCR 3877: Changed Display Input Control Group 12 and 13 to reflect significant bits as a total, not a range.	210	210
24-MAY-99 – M. Grigore	Audit Trail 5.2.7.2 Group 13	Changed ASPB reference SCR from 2698 to 3877. SCR 3877: Added Continuous Response for DSU.	210	210
30-MAY-99 – M. Grigore	Audit Trail 5.2.7.2 Group 12 5.2.7.2 Group 13	Removed incorrect use of word "Table". SCR 3877: Deleted Key Press Data in Group 12. Changed name from "Query" to "Query/ Continuous" in Groups 12 & 13.	210	210
03-JUN-99 – MJC	Table 5.2.7	Comment change only. Corrected ID 22 description which incorrectly listed this ID as No auto Range.	-	-
03-JUN-99 – Gary Boyd	Table 5.2.7 5.2.7.1 Group 8 5.2.7.1 Group 16	SCR 3820/3821 Change ID 14,21 – Display Type/Peaks Type to "b". Enabled Peaks in Groups 8 & 16.	210	210
08-JUN-99 – Gary Boyd	5.2.7.1 Group 14 5.2.7.1 Group 23	SCR 3822: Change Manual Select comment to: "Select if in displayable mode".	210	210
	5.2.7.1 Group 8 5.2.7.1 Group 16	SCR 3820: Changes Peaks comment wording.		
11-JUN-99 – Gary Boyd	5.2.7.1 Groups-14/23	SCR 3822: Change Manual Select comments.	210	210
	Table 5.2.7 5.2.7.1 Group 1, 9, and 21.	SCR 3902: Added Peaks via overlay for ID's 4, 13, and 27 (Display Config. Groups 1, 9, and 21).		

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
17-JUN-99 – Gary Boyd	Table 5.2.7 5.2.7.1 Group 24	SCR 3852: Added Astronautics EFIS display.	210	210
	Table 5.2.7 5.2.7.1 Group 25	SCR 3850: Added Bendix EFIS 10 display.		
	5.2.7.1 Group 20	Added Traceability for ASPB and R10 to SRD requirements.		
	Table 5.2.7 5.2.7.1 Group 26	SCR 3382: Added ADC display. ID 31, Display Group 26, Input Control 2.		
28-JUN-99 – Gary Boyd	Table 5.2.7 5.2.7.2 Group 15	SCR 3852: Added new Display Input Control group for Astronautics EFIS.	210	210
	Table 5.2.7	SCR 3877: Corrected typo ID 12 and 26 program states reversed.		
01-JUL-99 – Gary Boyd	5.2.7.2 Group 15	SCR 3852: Changed comments for Display Select discretes.		
13-JUL-99 – Richard auf der Springe	5.2.7.3 Group 0, 1	SCR 4043: Added label set 7.1.20.x.	-	-210
15-JUL-99 – MJC	5.2.7.2 Group 11	SCR 4032: Added label 110.	-210	-210
27-JUL-99 – Jeff Egilsrud	Table 5.2.7 5.2.7.1 Group 27	SCR 4012: Added new display configuration group for Astronautics EFIS with 429 binary peaks elevations	-210	-210
28-JUL-99 – Gary Boyd	5.2.7.1 Group 25	SCR 3850: Changed: 1) Manual Select and Deselect to "Anytime". 2) Overlay Page location. 3) Arinc to ARINC in entire document. 4) Added comments say that weather must be on before Terrain can be viewed.	-210	-210
30-JUL-99 – Gary Boyd	Table 5.2.7, ID 30	SCR 3850: Changed *Input Control* Group to 9.	-210	-210
19-AUG-99 – Gary Boyd	Table 5.2.7, ID 12 Table 5.2.7, ID 26 Table 5.2.7, ID 31 5.2.7.1 Group 20 5.2.7.1.Group 26 5.2.7.2 Group 12 5.2.7.2 Group 13	SCR 3382: Made ID 12 the official ASPB ID. Removed ID 26 and ID 31 (TDU and ADC). Removed Display Configuration 26 (ADC). Change Input Control Group 13 labeling to ASPB and indicated that DSU word is only used by DSU Changed Display Control Group 20 to indicate which options are selected by the display response.	-210	-210
26-AUG-99 – Gary Boyd	5.2.7.1 Group 9 5.2.7.1 Group 21	SCR 4210: Changed "Overlay Page" message.	-210	-210
31-AUG-99 – Richard auf der Springe	5.2.7.3 Group 1	SCR 4043: Added Computer Terrain Clearance to Output 429 bus.	-210	-210
02-SEP-99 – Jeff Egilsrud	5.2.7.1 Group 27	SCR 4234: Documentation only – changed hidden requirement tracing to 5.2.7.1-27.		
03-SEP-99 – Jeff Egilsrud	Table 5.2.7,ID 30 5.2.7.2 Group 12	SCR 4235: Created display input control group 12 (no label 273) for Honeywell EFIS 10 display. Changed input control group for EFIS 10 display (ID 30) in table 5.2.7 to group 12.	-210	-210
08-SEP-99 – Jeff Egilsrud	Table 5.2.7,IDs 30, 31, 32	SCR 4251: Documentation only – corrected PP 2 state for TAD Ids 30, 31 and 32 from 0, 1 and 2 to 1, 2 and 3, respectively.		
24-SEP-99 – Gary Boyd	Table 5.2.7.2 Group 15 Table 5.2.7.1 Groups 24 & 27	SCR 4305: Removed display select discretes. Added comments to "Auto Range" for Configuration Groups 24 & 27.	-210	-210
20-OCT-99 – Richard auf der Springe	5.2.7.3 Group 1	SCR 4507: Section 5.2.7.3 label sets 7.1.2.8 and 7.1.20.x removed from Output 429 Bus Group 1.	-210	-210

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
27-OCT-99 M. Grigore	Table 5.2.7	SCR 4539: Added Note 5 to define ASPB labels supported and ASPB compatible displays validated in each respective release.	-210	-210
1-NOV-99 – M. Tam	5.2.7.3 Group 0	SCR 4511: Added 7.1.19.x.	-210	-210
14-DEC-99 – Gary Boyd	Table 5.2.7 New ID 33 5.2.7.1-28	SCR 4732: Added new display configuration for EFIS 10 using RDR 4 Radar color palette. New ID 33 with new Display Configuration 28.	-212	-212
15-DEC-99 – Gary Boyd	Table 5.2.7 New ID 26 5.2.7.1-29 New	SCR 4739: Added new display configuration to support water on moded PPI4B displays. New ID 26 with new Display Configuration Group 29.	-212	-212
16-DEC-99 – R. Halbert	Table 5.2.7	SCR 4735: Changed ID 28 Display Input Control Group 8 to 2. Changed Effectivity to -212-212	-212	-212
07-JAN-00 – Gary Boyd	5.2.7.1-27	SCR 4780: Added Integration Notes.	-212	-212
	5.2.7.1-23	SCR 4780: Change note to indicate Peaks is always selected.		
11-JAN-00 – Gary Boyd	5.2.7.1-21	SCR 4780: Reversed “Values” for “Overlay Page” and “Searchlights”.		
15-FEB-00 – A Loos	Table 5.2.7	Add pin numbers to table.	-	-
16-FEB-00 – S. Arnett	Table 5.2.7 5.2.7.1 Group 30 5.2.7.1 Group 31 5.2.7.2. Group 16 5.2.7.2 Group 9 5.2.7.2 Group 21	SCR 4862: For HW Primus Epic, added new ID 34 *with Display Configuration Group 30* and *Display Input Control Group 16*. Added new ID 35 *with Display Configuration Group 31* and *Input Control Group 16*. Added comment to *Display Group 9* that Peaks cannot be selected if this configuration is used by a P880/660/440 display. Revised comment in *Display Group 21* that Peaks overlay is located on lower left of display.	-212	-212
21-FEB-00 – Gary Boyd	5.2.7.2-15 5.2.7.1-24 5.2.7.1-27	SCR 4877: Add Pop Up disable function using the normal Terrain Selection discrete for the Astronautics display. This function is used as a “Contained Pop Up” for a display that controls the relay selection. Remove incorrect comment from Auto Range stating that Auto Range is only active during a Pop Up. Added Integration Note about Terrain Pop Up disable.	-212	-212
09-MAR-00 – Gary Boyd	5.2.7.1-19	SCR 4921: Added standard “Contained Pop Up” for MD80 display Group 19. Changed SRD reference to TD820R50.		
23-MAR-00 – S. Arnett	Table 5.2.7 5.2.7.1 Group 11 5.2.7.1 Group 30 5.2.7.1 Group 31	SCR 4957: Added Peaks. SCR 4958: Comment only - Renamed “Primus Epic” to ”Primus Epic CDS and CDS/R”.	-	-212
06-APR-00 – Gary Boyd	5.2.7.2-15	SCR 4877: Changed “...Discrete #2” to “...Discrete #1”	-	-212
19-APR-00 – Gary Boyd	5.2.7.2-16	SCR 5031: Changed bus name to “IC1080...”. Changed label name to “FWC & GP Discrete Word”	-	-212

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
19-APR-00 – Gary Boyd	Table 5.2.7 5.2.7.1-3 5.2.7.1-5	SCR 4712: Added Peaks	-	-212
	Table 5.2.7 5.2.7.1-12	SCR 5010: Added Peaks		
	Table 5.2.7 5.2.7.1-13	SCR 5011: Added Peaks		
25-APR-00 – M. Tam	Table 5.2.7 5.2.7.1-3,5,12,13	SCR 4712, 5010, 5011: Fixed typo from –212-121 to –212-212	-	-212
01-MAY-00 – M. Grigore	TABLE 5.2.7 Note 5, 5.2.7.1-20 5.2.7.2-13	SCR 5059: Changed nomenclature to KCPB. Modified Note 5 in TABLE 5.2.7. Added label 012 to Input Control Group 13.	-212	-212
19-MAY-00 – Gary Boyd	TABLE 5.2.7 ID 33. 5.2.7.1-28	SCR 5176: Changed Table 5.2.7, ID 33 Display *Input Control* Group (5.2.7.2) from 12 to 2. Changed Display *Configuration Group* 28 to indicate: 1) Cyan or blue water is not displayed. 2) The white "MAP" annunciation will be shown when in terrain. 3) The 5 NM EFIS range will blank the display of terrain.	-212	-212
02-JUN-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
14-JUN-00 G. Burlingame	Table 5.2.7.1-1	Corrected applicable version number for peaks for Display *Configuration* Group 1.	-	-
20-JUN-00 – Gary Boyd	5.2.7.2-15	SCR 4877: Added note clarifying discrete name.	-	-
16-AUG-00 – P. Bateman	Table 5.2.7 Table 5.2.7.1-32 Table 5.2.7.1-33	SCR 5334: Added Bendix PPI-4A/4B without Autoranging (ID36) and (ID37, blue water)	-213	-213
17-AUG-00 – L. Caldeira	5.2.7	SCR 5241: Tracing change only. Changed single 5.2.7 tracing to 5.2.7-0 through 30, etc. to allow finer tracing granularity.	-	-
02-OCT-00 – Gary Boyd	New 5.2.7, ID 31 New 5.2.7.1-26 New 5.2.7.2-4	SCR 5494: Added KC10 display (same as B737Ng), ID 31, Display *Configuration* Group 26, *Display Input Control* Group 4.	-213	-213
19-DEC-00 – Gary Boyd	New 5.2.7, ID 38 New 5.2.7.1-34	SCR 5573: Added Collins FPI-920 (similar to FDS-255) except with ARINC 429 binary Peaks Elevations.	-213	-213
10-JAN-01 – Gary Boyd	5.2.7, ID 31 5.2.7.2-4	SCR 5494: Change from "future" to 213 release.	-213	-213
	5.2.7.2-16	SCR 5305: Changed bus speed to Low and renamed Fault Designation from "FDR BUS 1/2" to "DISPLAY BUS 1/2"	-213	-213
12-JAN-01 – S. Arnett	5.2.7.2-16	SCR 5305: Changed Bus Type and Signal Type from TA&D to basic.	-	-213
16-JAN-01 – J.Colmenares	5.2.7.3 Group 0	SCR 5769: Added "only for displays that enable PKS_429Output" to 7.1.19.x.	-210	-210
22-JAN-01 – Gary Boyd	5.2.7.2-4	SCR 5746: Document only. Changed "CONNECT TO" from "DEU" to 'VIA-GP BUS #1/#2"	-	-
	5.2.7.2-16	Corrected "Bus Type" to TA&D for channel 1		
23-JAN-01 – Gary Boyd	5.2.7.2-16	SCR 5305: Document only. Changed "Signal Type" to TA&D	-	-

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
25-JAN-01 – Gary Boyd	5.2.7.2-16	SCR 5305: Added "Format 1" and "Type 2" to make consistent with the EM5	-	-
14-FEB-01 – Susie Wright	Display config Groups 30 and 31	SCR 5809: General document cleanup - made changes to implementation notes	-213	-213
15-FEB-01 – Gary Boyd	5.2.7.1-30/31	SCR 5746: Added note saying that TA&D Alternate Pop Up has no effect, but they display can disable Pop Up.	-	-
11-JUN-01 – MJC	5.2.7.3 groups 0 and 1	SCR 5222: Added reference to Mercury GPS Output data for –06x and –07x part numbers.	-214	-214
24-JUL-01 – Gary Boyd	5.2.7 ID 6 & 8 5.2.7.1 groups 3 & 5	SCR 6053: Added WXA 1000 to "Application Note". Added "Integration Notes" for Proline II & IV.	-	-
01-AUG-01 – MJC	5.2.7.3 groups 0 and 1	SCR 5222: Deleted reference to –07x part numbers.	-214	-214
01-NOV-01 – G. Ostrom	New 5.2.7, ID 39 New 5.2.7.1-35	SCR 6446: Added KCPB display type w/o presentation of Terrain Awareness Corrected Altitude.	-214	-214
05-NOV-01 – Gary Boyd	Table 5.2.7, ID 31 5.2.7.1-26	SCR 6477: Change from MAP to PFD/ND display format.	-	-214
26-NOV-01 – Gary Boyd	5.2.7, ID6 & 8	SCR 6053: Changed "Application Note" to "…(may require WXA-1000)"	-	-214
	5.2.7.1-20/35	Changed Peaks Mode to: The display of Peaks Elevations digits is controlled by Display Response and can be via: overlay, or ARINC 453 Label (024 or 025)	-	-
28-NOV-01 – N Paterson	All	SCR 6053: General cleanup		
	5.2.7	SCR 6525: Added traceability		
11-MAR-02 – M. Henderson	5.2.7.2 Group 4	SCR 6653: Added 'Display Modes Selection' to label 272 (reference # 6.1.7.7.6).	-	-216
12-MAR-02 – S.G.H. Bhatta	Table 5.2.7. 5.2.7.1-36	SCR 6776: Added ID 40 to table 5.2.7. Added *Display Configuration Group 36* to cover Bendix RDR 4A/B PPI Display, no Autorange, blue water option and contained Pop up.	-216	-216
13-MAR-02 – L. Caldeira	5.2.7.2. Group 4	SCR 6653: Added bit 15 to definition of label 272.	-	-216
25-MAR-02 – L. Caldeira	5.2.7.2. Group 4	SCR 6653: Made label 272 SDI both.	-	-216
02-APR-02 – G. Ostrom	5.2.7.2. Group 16	SCR 6820: Added Epic Discrete Word Mask and note 2 to Display Input Control Group 16.	-216	-216
04-APR-02 – G. Ostrom	Table 5.2.7	SCR 6820: Moved Epic Discrete Word Mask to table 5.2.7.	-216	-216
30-APR-02 – S. Hoglund	5.2.7.2 Group 4	SCR 5248: Added 'Map Mode orientation' to label 272.	-	-216
11-JUN-02 – G. Ostrom	Table 5.2.7, 5.2.7.1 Group 3, 8, 16, 22, 23	SCR 6608: Document only update: Revised Application notes for the following IDs: 6, 14, 19, 21, & 28. 5.2.7.1 Group 3 revised title, display type and added note 3. 5.2.7.1 Group 8, 16, & 22. Added note to 5.2.7.1 Group 23.	-	-
17-JUN-02 – G. Ostrom	5.2.7.1 Group 19	SCR 6608: Document only update: Revised 5.2.7.1 Group 19 Overlay page locations for TERR and Peaks numbers.	-	-
17-JUN-02 – Gary Boyd	Table 5.2.7 ID 5	SCR 6608: Changed "Note 2" reference to Spare. Changed NOTE 2: "Note removed in -216."	-	-
	Table 5.2.7 ID 30 5.2.7.1-25	Changed EFS86 to RDS86.		

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
18-JAN-03 – Gary Boyd	New 5.2.7, ID 41 New 5.2.7, ID 42 New 5.2.7.1-37 New 5.2.7.1-38 5.2.7.2-14	SCR 7368: Added two new Selectable display IDs 41 & 42, using Display Configuration Groups 37 & 38 respectively. Added to Display *Input Control* Group 14 "Display select Discrete #2"	-217	-217
09-FEB-03 – Krish	5.2.7.2-4	SCR 7390: Changed EFIS BUS 1 & 2 to High Speed. Removed Terrain Relay Monitor #1 &#2	-217	-217
27-JUN-03 – M. Henderson	Table 5.2.7 5.2.7.2-17	SCR 7604: Changed Display Input Control Group for both the EDZ802 and EDZ806 from ID 14 to 17. Added ID 17 to the Display Input Control Group.	-218	-218
13-AUG-03 Gary Boyd	New 5.2.7, ID 43 New 5.2.7.1-39	SCR 7652: Add new Display ID 43 and Display Configuration Group 39.	-	-218
04-AUG-04 – Krish	5.2.7.3	SCR 8075: Added Label set 7.1.97 to Output 429 Bus Group 0.	-	-222
09-AUG-04 – Gunavanth Patil	5.2.7.1 Group 3 5.2.7.1 Group 5 5.2.7.1 Group 12 5.2.7.1 Group 13	SCR 8007: Modified "Overlay Page" for display of TERR and PEAKS Number.	-	-222
31-AUG-04 – E. Schell	Table 5.2.7	SCR 8114: Updated ID 2 to support KCPB. Updated Note 4.	-222	-222
14-SEP-04 – Krish	5.2.7.3	SCR 8075: Introduced a note under Output 429 bus group 0 to mention that label set 7.1.97 is added for future support only.	-	-
15-NOV-05 – M. Henderson	5.2.7, ID 44 5.2.7.1 Group 40 5.2.7.2 Group 18 5.2.7.3	SCR 8174: Corrected typo. Added new display ID 44 (table 5.2.7), Display Configuration Group 40 (5.2.7.1), Display Input Control Group 18 (5.2.7.2), and label set 7.1.7 to Output 429 Bus Group 0 (5.2.7.3).	-224	-224
01-DEC-05 G. Burlingame	5.2.7.3	SCR 8414: Added VSD Label set to Output 429 Bus 0 Group when VSD is enabled	-	-
24-JAN-06 – M. Calhoun	5.2.7.3	SCR 8470: Added label set 7.1.97 to Output 429 Bus Group 0 and noted it is applicable to -224.	-	-224
09-FEB-06 – L. Caldeira	Table 5.2.7	SCR 8168: Doc only change to expand note 4.	-	-224
16-FEB-06 – E. Wilmot	5.2.7.3	SCR 8414: Backed out all associated changes. Changed effectivity of associated, previous audit trail entry.	-	-
10-MAR-06 – M. Calhoun	Table 5.2.7 Tables for configuration groups Input Control Group 4	SCR 8201: Doc only changes as follows: Corrected radar type listed for ID 30. Corrected ICD reference for Options Group 4 in tables for configuration groups 0, 1, 3-22, 24-29, 32-39. Added missing reference for Options group 1 in tables for configuration groups 20, 35. Added note 3.	-	-
10-MAR-06 – M. Calhoun	Audit trail only	SCR 8201: Made correction to earlier audit trail for 10-MAR-06 only.	-	-
25-MAY-06 – A. Lowe	Table 5.2.7, ID 45, 46 5.2.7.1 Group 41,42 5.2.7.2 Group 19	SCR 8686: Added new ID 45 and 46 to Table 5.2.7. Added new 'Display Configuration Group' table for 41 and 42. Added new 'Display Input Control Group' table for 19.	226	226

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
01-JUN-06 – A. Lowe	Table 5.2.7 5.2.7.1 Group 41,42	Updated tables added above to state correct 'Display Configuration Group' number. Fixed typo in above audit trail. Updated Group 41, 42 to include 'Format: ARINC 429'. Fixed typos in 'Display Input control Group 19' for 'PFD Mode Select Word 3' and 'MDA (Format 3)'.	226	226
05-JUN-06 – L Ngo	5.2.7.3	SCR 8522: Added VSD Label set to Output 429 Bus 0 Group when VSD is enabled.	226	226
07-JUN-06 – A. Lowe	Table 5.2.7, ID 46 5.2.7.1, Group 42	SCR 8686: Updated to show 'Full' Compass Raster Patch instead of 'Partial'. 5.2.7.1, group 42, updated reference section to state '8.16.R50' instead of '8.16.R30'.	226	226
19-JUN-06 – L Ngo	5.2.7.3	SCR 8522: (Doc Only) Fixed note 2 to reference -226.	226	226
24-JUL-06 – A. Lowe	5.2.7.2 Group 19	SCR 8686: Updated 'Selected Course' information (Reference, Sig. Bits, Resolution and Rate) in 'Display Input Control Group 19' table.	226	226
18-AUG-06 – H. Asha Nand	5.2.7.1, Group 39	SCR 8670: General Document cleanup.	-	-
25-APR-07 – L. Caldeira	5.2.7-5	SCR 8822: Finished deleting obsolete ID.	228	228

Section Overview

The following table (5.2.7) has an identification number (ID) associated with each Terrain Display configuration program pin strapping. Each of the ID rows has a group number for the Display *Configuration*, the *Input Control*, and the *Output 429* bus. The ID groups will completely identify a particular Terrain Display Interface.

The Display *Configuration* also defines the behavior of EGPWS for options selected in other ICD Categories. Specifically it defines the behavior of the TA&D Alternate Pop Up in Category 10 (Option Select Group #1) and *Peaks Enable* from Category 17 (Option Select Group #4). Displays that do not support *Peaks* will show a "Peaks Off" entry for either state of *Peaks Enable*.

In this category the following signals are configured per the program pin strapping ID number:

Signal Name	Signal Type	Defined By
Terrain Display Bus:	ARINC 453 or Honeywell picture bus or KC Picture Bus (KCPB)*.	Display *Configuration* Group
Range Bus:	ARINC 429 and Honeywell SCI bus	Display *Input Control* Group
EFIS/Display Control/Mode Words:	ARINC 429	
Display Select Discrete #1 and #2:	Open/Ground discrete	
WXR On Discrete #1 and #2:	Open/Ground discrete	

- KCPB was originally known as AlliedSignal Picture Bus (ASPB)

In cases where the above signals are on an ARINC 429 bus with other signals, you must either:

- Select from the other category the bus with the **same Fault Designation name and Channel** as the *Input Control* Group indicates for this category (In this case a single physical bus with a single connection satisfies more than one category). Or,
- Select from the other category a **different bus Fault Designation name and Channel** and wire it to the same source as this category. In this case a single physical bus failure will result in multiple bus names being faulted by the MK VII EGPWS Self Test (In this case a single physical bus with multiple connections satisfies more than one category).

Table 5.2.7: Terrain Display Select (Ppin 19, 2)

ID	PP 19 State (J2-B5)	PP 2 State (J2-B4)	Display Type (Note 1)	Display *Configuration* Group (5.2.7.1)	Display *Input Control* Group (5.2.7.2) (Note 3)	*Output 429 Bus* Group (5.2.7.3)	Application Notes	Effectivity App.	Effectivity Cfg.
0	1	1	(; ; ;) True	NONE	NONE	0	TA&D / TCF Disabled	202	202
1	1	2	(; ; ;) False	2	3	0	No Display	202	202
2	1	3	(2/3; C; b/d) False	20	13	1	CAS KA-C90 KC Picture Bus (KCPB) (Notes 4, 5)	222	222
3	1	4	(1; A; b) False	0	2	0	Qual Config	202	202
4	1	5	(3; B; b) False	1	1	0	SPZ8000 and EDZ805 ARINC 429 Range	202	202
5	1	6	(; ;) False	2	3	0	spare	-	-
6	1	7	(1; A; b) False	3	2	0	Collins Pro-Line II (5x6) or Collins Pro-Line IV (non-integrated) (may require WXA-1000)	204	204
7	1	8	(1; A; b) False	0	2	0	Bendix PPI-4A/4B	204	204
8	1	9	(1; A; b) False	5	2	0	Collins Pro-Line II (5x4,5x5) (may require WXA-1000)	204	204
9	1	10	(1; A; b) False	4	6	0	BA 747-200 Honeywell AMD	204	204
10	2	1	(1; A; b) False	6	2	0	Collins WXI-701/711 (Top Center TERR)	204	204
11	2	2	(1; A; b) False	7	2	0	Collins WXI-701/711 No auto range (Top Center TERR)	204	204
12	2	3	(2/3; C; b/d) False	20	13	0	KC Picture Bus (KCPB) (Note 5)	210	210
13	2	4	(3; B; b) False	9	7	0	SPZ8000 (SG-810/811) SCI Range	206	206
14	2	5	(3; A; b) False	8	8	0	CollinsFDS-2000 (255) Display controls selection	206	206
15	2	6	(1; A; b) False	10	2	0	Honeywell Primus 708	206	206
16	2	7	(1; A; b) False	11	2	0	Honeywell Primus 708 auto range	206	206
17	2	8	(1; A; b) False	12	9	0	Bendix IN182A/IN812A	206	206
18	2	9	(1; A; b) False	13	9	0	Bendix IN842A/IN862A	206	206
19	2	10	(1; A; b) False	14	9	0	Non-Integrated Bendix EFIS 40/50	206	206
20	3	1	(3; B; b) False	15	10	0	Honeywell Primus 1000	206	206

ID	PP 19 State (J2-B5)	PP 2 State (J2-B4)	Display Type (Note 1)	Display *Configuration* Group (5.2.7.1)	Display *Input Control* Group (5.2.7.2) (Note 3)	*Output 429 Bus* Group (5.2.7.3)	Application Notes	Effectivity App.	Effectivity Cfg.
21	3	2	(2; A; b) False	16	8	0	Collins FDS-2000 (255) EGPWS controls selection	208	208
22	3	3	(1; A; b) False	17	2	0	Collins WXI-701/711 auto range (Bottom Left TERR)	208	208
23	3	4	(1; A; b) False	18	2	0	Collins WXI-701/711 (Bottom Left TERR)	208	208
24	3	5	(1; A; b) False	19	11	0	Standard ARINC format Honeywell EFIS	208	208
25	3	6	(3; A; b) False	24	15	0	Astronautics	210	210
26	3	7	(1; A; b) False	29	2	0	Bendix PPI-4A/4B (Moded to support CYAN)	212	212
27	3	8	(2; B; b) False	21	14	0	Integrated Honeywell P880/660/440 (WXPD)	210	210
28	3	9	(1; A; b) False	22	2	0	Collins FDS-2000 (255) Non-Integrated	212	212
29	3	10	(2, A, d) False	23	9	0	Integrated Bendix EFIS 40/50	210	210
30	4	1	(1, A, b) False	25	12	0	Bendix EFIS 10 RDS-86 radar system	210	210
31	4	2	(2, A, e) False	26	4	0	Boeing Honeywell LCD EFIS (PFD/ND)	217	217
32	4	3	(3; A; f) False	27	15	0	Astronautics with 429 binary peaks elevations	210	210
33	4	4	(1, A, b) False	28	2	0	Bendix EFIS 10 RDR 4 radar system	212	212
34	4	5	(3, B, b) False	30	16*	0	Honeywell Integrated Primus Epic CDS and CDS/R, overlay peaks elevations	212	212
35	4	6	(3, B, f) False	31	16*	0	Honeywell Integrated Primus Epic CDS and CDS/R, binary peaks elevations	212	212
36	4	7	(1; A; b) False	32	2	0	Bendix PPI-4A/4B without Autoranging	213	213
37	4	8	(1; A; b) False	33	2	0	Bendix PPI-4A/4B without Autoranging (modified to support CYAN)	213	213
38	4	9	(3; A; f) False	34	8	0	CollinsFPI-920 Display controls selection	213	213
39	4	10	(2/3; C; b/d) False	35	13	0	KC Picture Bus (KCPB) w/o presentation of Terrain Awareness Corrected Altitude (Note 5, 6)	214	214

* For this Display type and input control group the configuration item: Epic Discrete Word Mask = True. This was added in–216 to ignore all unused bits from label 171.

ID	PP 19 State (J2-B5)	PP 2 State (J2-B4)	Display Type (Note 1)	Display *Configuration* Group (5.2.7.1)	Display *Input Control* Group (5.2.7.2) (Note 3)	*Output 429 Bus* Group (5.2.7.3)	Application Notes	Effectivity App.	Effectivity Cfg.
40	5	1	(1,A,b) False	36	2	0	Bendix PPI-4A/4B with No Autorange, with blue water option and contained pop up.	216	216
41	5	2	(1,B,b) False	37	17	0	EDZ802 and similar non-integrated "bolt-on" WXPD display with single mode/range SCI bus	217	217
42	5	3	(1,B,b) False	38	17	0	EDZ806 and similar non-integrated "bolt-on" WXPD display with single mode/range SCI bus	217	217
43	5	4	(1,A,b) False	39	2	0	Honeywell "bolt-on" VIA DEU (used only by Saudi Arabian Airlines MD90)	218	218
44	5	5	(3,A,f) False	40	18	0	Integrated Honeywell DU-1080 EFIS	224	224
45	5	6	(3,A,b) False	41	19	0	ProLine 21, Integrated, with Overlay Peaks Elevation and Partial Compass Raster Patch	226	226
46	5	7	(3,A,f) False	42	19	0	ProLine 21, Integrated, with ARINC 429 Binary Peaks Elevation and Full Compass Raster Patch	226	226

Note 1: Display Types: (Integration; Picture Type; Peaks Type) True or False

Integration [1]	Picture Output Type [2]	Peaks Type [3]	TA&D and TCD Disable [4]
1. Not integrated. 2. Yes, EGPWS controls selection. 3. Yes, Display controls selection.	A. ARINC 708. B. Honeywell Picture bus. C. KCPB.	a. Not supported. b. Elevations via overlay. c. Elevations via ARINC 429, ASCII. d. Elevations via ARINC 453, Label 025. e. Elevations via ARINC 453, special Label 055. f. Elevations via ARINC 429, binary.	True (disabled) False

[1] Integrated displays required changes to display hardware; contact manufacturer for required modification information. Non-integrated display will usually have the Terrain display annunciation (TERR) displayed via overlay in the weather radar display patch (Peaks Elevations, if supported, will always be in the overlay).

[2] ARINC 708 is the standard weather radar video output. The Honeywell Picture bus is a proprietary display format which requires the display to be integrated. KCPB is a proprietary display format of Honeywell and requires display to be integrated. The *UDI* is a proprietary Honeywell display interface that will use an interface box DSU (**D**isplay **S**witching **U**nit) to convert from KCPB format to the Honeywell UDI format (the display is <u>not</u> integrated, but requires the DSU).

[3] Peak Elevation are usually displayed as two lines of three digits each. The top line shows the elevation of the

highest terrain (at the selected range) being displayed in hundreds of feet. The bottom line shows the lowest displayed elevation. For non-integrated displays the Peaks Elevations are always displayed using the overlay ("Flintstone" font) in the Terrain picture. For many integrated displays the Peaks Elevation are displayed as stroked characters by the display itself and are outside of the Terrain picture area (giving better definition and not interfering with terrain picture date). There are two ways for the EGPWS to send Peaks Elevations for integrated displayed using "stroked" characters. One way is to send the information using ARINC 429 labels and the other is to digitally encode the information as part of the ARINC 453 pictures display using alternate label definitions.

[4] If the Terrain Awareness and Display (TA&D) and Terrain Clearance Floor (TCF) functions are disabled then all input signals shown as TA&D types in the current configurations for other categories will not be used. This may also have the effect of disabling Envelope Modulation if the only source of position/heading in the other category is defined as TA&D. For example, if a GPS input (category 6, section 5.2.6) is the only source of this data for a given aircraft type, and if this bus is defined as 'TA&D', then it will be disabled when TA&D and TCF are disabled. This will result in disabling Envelope Modulation because it will have no source of position or heading.

Note 2: Note removed in -216.

Note 3: All Display *Input Control* groups that define "Dual 429 Inputs" must have both inputs connected to both-EGPWS (typically RX429-16 on J2-C13/C14 and RX429-17 on J2-B14/B15). Installations requiring a single input must parallel it to both EGPWS input channels to prevent an external bus fault being reported on the second channel.

Note 4: This configuration is only applicable to Honeywell's King Air C-90. Note 3 does not apply to this configuration. Note that in releases -202/-202 through -220/-220, this ID supported the Bendix PPI-4A/4B (Display Configuration Group = 0, Display Input Control Group = 0).

Note 5: For a description of the KCPB features implemented in a particular software EM7 release, see Appendix B: KCPB Phased Implementation in the EGPWS Interface Methodology document 060-4303-000. In –214–214 displays that provide Terrain Awareness Corrected Altitude changed altitude reference designation from "MSL" to "GSL". In –212–212, KCPB was updated to add key press input label 012.

Note 6: With this configuration the EGPWC shall <u>not</u> overlay Terrain Awareness Corrected Altitude.

5.2.7.1 Terrain Display Configuration Selection

Display *Configuration* Group 0 (Bendix RDR 4A/B PPI)

Function	Value		Reference section
Display Type	Bendix PPI-4A/4B (MAP-MODE)		SRD 8.23.R10*
Sweep Type	Standard		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning from neither	Never Pop Up	
Peaks Mode (added in –208-208)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	Yes (10NM)		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: “TERR” is located in the lower right of the display. With Peaks: Peaks numbers are located in the lower right of the display.		
Display Priority	Prior to –208: Standard (PWS Warn, Terrain Warn, PWS Caution, Terrain Caution) -208 and on: Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 1 (Honeywell SPZ8000 (new style) and EDZ805)

Function	Value		Reference section
Display Type	Honeywell (5x6) SPZ8000/EDZ805 - every fourth display line is blanked		SRD 8.7.R10*
Sweep Type	Honeywell		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (Added in –212-212)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Controlled by SPZ8000/EDZ805 system		
Manual deselect	Controlled by SPZ8000/EDZ805 system		
Auto Range	Yes (10NM)		
Moving Marker	Yes; for Peaks elevations only (located on lower left corner).		
Overlay Page	No		
Display Priority	Standard		
Display bus type	Honeywell picture bus		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1 and MFD left channel		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2 and MFD right channel		

*Item for internal Honeywell use only

Display *Configuration* Group 2 (no display)

Function	Value	Reference section
Display Type	No Display	SRD 8.0.R10*
Sweep Type	N/A	
Selection Logic	N/A	
Auto Range	N/A	
Moving Marker	N/A	
Overlay Page	N/A	
Display Priority	N/A	
Display bus type	N/A	
CHANNEL TX453-1	**CONNECT TO: No Connection**	
A = J1A-15 B = J1A-16		
CHANNEL TX453-2	**CONNECT TO: No Connection**	
A = J1B-35 B = J1B-36		

*Item for Honeywell internal use only

Display *Configuration* Group 3 (Collins Pro-Line II, 5x6 and Pro-Line IV Non-Integrated)

Function	Value		Reference section
Display Type	Collins Pro-Line II (5x6) and Pro-Line IV Non-Integrated		SRD 8.3.R20*
Sweep Type	Standard with +/-60 degree limit		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (Available as of –212-212)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: “TERR” located on the right side of the display With Peaks: Peaks numbers located on the upper left side of the display.		
Display Priority	Standard		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Integration Notes:

1) Refer to Rockwell Collins Service Information Letter, EFIS 84/85/86 SIL 2-99 Dated March 16/99 or later revision, for information describing the requirements to interface an EGPWS to the Collins Pro Line II system.
2) Aircraft equipped with EFIS 84/85/86 displays and WXR-350 radar system requires the use of Collins WXA-1000 converter, per Collins SIL2-99. Aircraft equipped with EFIS 84/85/86 displays and WXR-700/840 or TWR-850 radar systems do not require any converter.
3) When using this ID to support Collins Pro-Line IV Non-Integrated (EFIS software 5.x), range label input must be low speed ARINC 429 label 271. Do not use IOC (GP-5) high speed label 155 for this application.

Display *Configuration* Group 4 (BA 747 Honeywell AMD)

Function	Value		Reference section
Display Type	Equivalent to Bendix PPI		SRD 8.1.R10*
Sweep Type	Standard		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up, when in proper mode, on Caution or Warning	Never Pop Up	
Peaks Mode (added in –208-208)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime WXR is on and AMD is in proper Mode		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: "TERR" located on the middle left of the display. With Peaks: Peaks numbers located on the middle left of the display.		
Display Priority	Prior to –208: Standard (PWS Warn, Terrain Warn, PWS Caution, Terrain Caution) -208 and on: Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay for MEU ARINC 708 WXR Input #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay for MEU ARINC 708 WXR Input #2		

*Item for Honeywell internal use only

Display *Configuration* Group 5 (Collins Pro-Line II, 5x4, 5x5)

Function	Value		Reference section
Display Type	Collins Pro-Line II (5x4, 5x5) Display		SRD 8.3.R30*
Sweep Type	Standard with +/-60 degree limit		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (Available as of –212-212)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Auto Range	No		
Manual select	Anytime		
Manual deselect	Anytime		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: "TERR" located on the right side of the display. With Peaks: Peaks numbers located on the upper left side of the display.		
Display Priority	Standard		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Integration Notes:

1) Refer to Rockwell Collins Service Information Letter, EFIS 84/85/86 SIL 2-99 Dated March 16/99 or later revision, for information describing the requirements to interface an EGPWS to the Collins Pro Line II system.
2) Aircraft equipped with EFIS 84/85/86 displays and WXR-350 radar system requires the use of Collins WXA-1000 converter, per Collins SIL2-99. Aircraft equipped with EFIS 84/85/86 displays and WXR-700/840 or TWR-850 radar systems do not require any converter.

Display *Configuration* Group 6 (Collins WXI 701/711 PPI, Auto Range Enabled – Top Center TERR)

Note: Left/Right shift keys on the display not to be used when displaying terrain with Peaks mode.

Function	Value		Reference section
Display Type	Collins WXI-701/711 PPI		SRD 8.2.R10*
Sweep Type	Fan		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (added in –208-208)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	Yes (10NM)		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: “TERR” is located at the top center of the display. With Peaks: Peaks numbers are located at the lower left of the display.		
Display Priority	Prior to –208: Standard (PWS Warn, Terrain Warn, PWS Caution, Terrain Caution) -208 and on: Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 7 (Collins WXI 701/711 PPI, without Auto Range– Top Center TERR)

Note: Left/Right shift keys on the display not to be used when displaying terrain with Peaks mode.

Function	Value		Reference section
Display Type	Collins WXI-701/711 PPI		SRD 8.2.R20*
Sweep Type	Fan		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (added in –208-208)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	No		
Overlay Page	Without Peaks: “TERR” located at the top center of display. With Peaks: Peaks numbers lower left (with FWD Selected on PPI).		
Display Priority	Prior to –208: Standard (PWS Warn, Terrain Warn, PWS Caution, Terrain Caution) -208 and on: Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 8 (Collins FDS 2000 with selection controlled by the display)

Function	Value		Reference section
Display Type	Collins FDS-255		SRD 8.4.R10*
Sweep Type	Fan		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (Available –210)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Selection controlled by display		
Manual deselect	Selection controlled by display		
Auto Range	No		
Moving Marker	No		
Overlay Page	Yes; For Peaks elevations only (located at the lower left).		
Display Priority	Standard		
Display bus type	Standard		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 9 (Honeywell SPZ8000 SG–810/811)

Function	Value		Reference section
Display Type	Honeywell (5x6) (SPZ8000 SG-810/811); does not blank every fourth weather radar display line. This display type may also be used for an integrated P880/660/440 display, but requires Auto Pop Up to be disabled and relay selection to be controlled directly from an alternate action switch, and requires Peaks Mode not be selected. The preferred method of interfacing to the P880/660/440 display is by use of ID 27 (*Display Group 21*).		SRD 8.6.R10*
Sweep Type	Honeywell		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (Added in –210-210)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Controlled by SPZ8000 display system		
Manual deselect	Controlled by SPZ8000 display system		
Auto Range	Yes (10 NM)		
Moving Marker	Yes (Honeywell type)		
Overlay Page	Yes, for Peaks Elevations only (located on lower right side)		
Display Priority	Standard		
Display bus type	Honeywell picture bus		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 10 (Honeywell Primus 708 Radar Display, No Auto Range)

Note: Left/Right shift keys on the display not to be used when displaying terrain.

Function	Value		Reference section
Display Type	Honeywell Primus 708 color Radar display		SRD 8.5.R10*
Sweep Type	Fan		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (added in –208-208)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	Yes		
Overlay Page	Without Peaks: “TERR” is right justified above the vertical display center. With Peaks: Peaks numbers lower left (with FWD Selected on PPI).		
Display Priority	Prior to –208: Standard (PWS Warn, Terrain Warn, PWS Caution, Terrain Caution) -208 and on: Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay for ARINC 708 WXR Input #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay for ARINC 708 WXR Input #2		

*Item for Honeywell internal use only

Display *Configuration* Group 11 (Honeywell Primus 708 Radar Display; Auto Range Enabled)

Note: Left/Right shift keys on the display not to be used when displaying terrain.

Function	Value		Reference section
Display Type	Honeywell Primus 708 color Radar display		SRD 8.5.R20*
Sweep Type	Fan		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up on Caution or Warning	Never Pop Up	
Peaks Mode (added in –208-208)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	Yes (10 NM)		
Moving Marker	Yes		
Overlay Page	Prior to –208: "TERR" right justified above the vertical display center. -208 and on: Without Peaks: "TERR" located at the bottom right of display. With Peaks: Peaks numbers bottom right.		
Display Priority	Prior to –208: Standard (PWS Warn, Terrain Warn, PWS Caution, Terrain Caution) -208 and on: Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay for ARINC 708 WXR Input #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay for ARINC 708 WXR Input #2		

*Item for Honeywell internal use only

Display *Configuration* Group 12 (Bendix IN182A/IN812A Radar display)

Function	Value		Reference section
Display Type	Bendix IN182A/IN812A color Radar Display (RDR-2000 radar system)		SRD 8.8.R10*
Sweep Type	Sweep range +/- 50 degrees		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up when display is in proper Mode	Never Pop Up	
Peaks Mode (Available as of –212-212)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime WXR is on and display is in proper Mode		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: “TERR” located on the top center of the display. With Peaks: Peaks numbers located on the upper right side of the display.		
Display Priority	Standard		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay for ARINC 708 WXR Input #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay for ARINC 708 WXR Input #2		

*Item for Honeywell internal use only

Display *Configuration* Group 13 (Bendix IN842A/IN862A Radar display)

Function	Value		Reference section
Display Type	Bendix IN842A/IN862A color Radar Display (RDR-2100 radar system)		SRD 8.9.R10*
Sweep Type	Sweep range +/- 60 degrees		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up when display is in proper Mode	Never Pop Up	
Peaks Mode (Available as of –212-212)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime WXR is on and display is in proper Mode		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: “TERR” located on the top center of the display. With Peaks: Peaks numbers located on the upper right side of the display.		
Display Priority	Standard		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay for ARINC 708 WXR Input #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay for ARINC 708 WXR Input #2		

*Item for Honeywell internal use only

Display *Configuration* Group 14 (Bendix EFIS 40/50 display)

Function	Value		Reference section
Display Type	Bendix EFIS 40/50		SRD 8.10.R20*
Sweep Type	Normal, Sweep range +/- 60 degrees		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up when display is in proper Mode	Never Pop Up	
Peaks Mode (added in –208-208)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime if EFIS is in displayable mode; Vertical Profile not selected		
Manual deselect	Anytime if EFIS is in displayable mode; Vertical Profile not selected. If Vertical Profile selected, then automatic deselect		
Auto Range	No		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: “TERR” is located at the middle right of the display. With Peaks: Peaks numbers are located at middle right of the display.		
Display Priority	Standard		
Display bus type	Standard		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay for ARINC 708 WXR Input #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay for ARINC 708 WXR Input #2		

*Item for Honeywell internal use only

Display *Configuration* Group 15 (Honeywell Primus 1000)

Function	Value		Reference section
Display Type	Honeywell Primus 1000		SRD 8.11.R30*
Sweep Type	Honeywell		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (Available -212)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Selection	Display system controls selection using EGPWS 429 Label 274 bits 28 and 29.		
Auto Range	Yes (10NM)		
Moving Marker	Yes (Honeywell type)		
Overlay Page	Yes, for Peaks Elevations only (located on lower left side)		
Display Priority	Standard		
Display bus type	Honeywell picture bus		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Honeywell left/right interleaved picture bus to MFD		

*Item for internal Honeywell use only

Display *Configuration* Group 16 (Collins FDS 2000 with selection controlled by the EGPWS)

Function	Value		Reference section
Display Type	Collins FDS-255		SRD 8.4.R20*
Sweep Type	Fan		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (Available -210)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	No		
Overlay Page	Yes; for Peaks elevations only (located on the lower left).		
Display Priority	Standard		
Display bus type	Standard		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 17 (Collins WXI 701/711 PPI, Auto Range Enabled – Bottom Left TERR)

Note: Left/Right shift keys on the display not to be used when displaying terrain.

Function	Value		Reference section
Display Type	Collins WXI-701/711 PPI		SRD 8.2.R30*
Sweep Type	Fan		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (added in –208-208)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	Yes (10NM)		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: "TERR" is located at the bottom left of the display. With Peaks: Peaks numbers are located at the lower left of the display.		
Display Priority	Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 18 (Collins WXI 701/711 PPI, without Auto Range– Bottom Left TERR)

Note: Left/Right shift keys on the display not to be used when displaying terrain.

Function	Value		Reference section
Display Type	Collins WXI-701/711 PPI		SRD 8.2.R40*
Sweep Type	Fan		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (added in –208-208)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: “TERR” is located at the bottom left of the display. With Peaks: Peaks numbers are located at the lower left of the display.		
Display Priority	Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 19 (Standard ARINC Format Honeywell EFIS)

Function	Value		Reference section
Display Type	Standard ARINC format Honeywell EFIS		SRD 8.20.R50*
Sweep Type	Standard		
Auto Pop Up (Contained Pop Up added in –212-212) [1]	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning AND WX is on AND EFIS in proper mode	Never Pop Up	
Peaks Mode (added in –208-208)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime if WX is on AND EFIS in proper mode		
Manual deselect	Anytime if EFIS in proper mode		
Auto Range	No		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: “TERR” is located at the lower right of the display. With Peaks: Peaks numbers are located at the lower right of the display.		
Display Priority	Standard		
Display bus type	Standard		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

[1] Contained Pop Up means that if Terrain is being displayed on one display then a Pop Up will not occur on the other display in the event of a Terrain Caution or Warning.

Display *Configuration* Group 20 (KC Picture Bus[3])

Function	Value		Reference section
Display Type	KC Picture Bus **(KCPB)**		SRD 8.17.R10[1]
Sweep Type	Curtain (Vertical or Horizontal scan)		
Auto Pop Up	**Table 5.2.10: Options Select Group #1 (Ppin 10)** [2]		5.2.10
	TA&D Alternate Pop Up Selection **False**	TA&D Alternate Pop Up Selection **True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode	**Table 5.2.17: Options Select Group #4 (Ppin 23)**		5.2.17
	Peaks Enabled Selection **False**	Peaks Enabled Selection **True**	
	Peaks Off	Peaks On	
Peaks Elevations	The display of Peaks Elevations digits is controlled by Display Response and can be via: overlay, or ARINC 453 Label (024 or 025)		
Manual select	None (Selecting controlled by display)		
Manual deselect	None (Deselecting controlled by display)		
Auto Range	Can be controlled by Display Response (if selected a 10 NM range will be used)		
Moving Marker	None		
Overlay Page	Controlled by display[4]		
Display Priority	Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	KCPB		
CHANNEL TX453_1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data		
CHANNEL TX453_2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data		

[1] Item for internal Honeywell use only

[2] Some displays may use the Terrain Caution and Warning discretes to trigger a Pop Up – this type of display will not be affected by this program pin (See Integration Note 2).

[3] KCPB was formally known as ASPB (AlliedSignal Picture Bus) prior to –212–212.

[4] "MSL" replaced with "GSL" as of –214–214.

Integration Notes:

1) Many **KCPB** options can be configured by the ARINC 429 Response input (Label 011) which is received from the display.

2) EGPWS ARINC 429 Output, Label 274, bits 28 /29 and Label 051 bit 11/12 will be set to "1" only during a Terrain Caution or Warning. These bit will be disabled when the Alternate Pop Program Pin is **True**.

Display *Configuration* Group 21 (Honeywell Integrated P880/660/440)

Function	Value		Reference section
Display Type	Honeywell Integrated P880/660/440 radar displays		SRD 8.6.R20*
Sweep Type	Honeywell		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (Added in –210-210)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	Yes (Honeywell type)		
Overlay Page	Yes, for Peaks Elevations only (located on lower left side)		
Display Priority	Standard		
Display bus type	Honeywell picture bus		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 22 (Collins FDS 2000, Non-Integrated, "Bolt-on")

Function	Value		Reference section
Display Type	Collins FDS-255		SRD 8.4.R30*
Sweep Type	Fan		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: "TERR" located at the bottom left of the display. With Peaks: Peaks numbers are located at the lower left of the display.		
Display Priority	Standard		
Display bus type	Standard		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 23 (Integrated Bendix EFIS 40/50 display)[1]

Function	Value		Reference section
Display Type	Integrated Bendix EFIS 40/50		SRD 8.10.R30*
Sweep Type	Normal, Sweep range +/- 90 degrees		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up when display is in proper Mode	Never Pop Up	
Peaks Mode	**Peaks Always Enabled for this configuration**		
Peaks Elevations	Data passed by ARINC 453, Label 025. Display can place characters on either the bottom left or bottom right of the display depending on EFIS strapping selection.		
Manual select	Anytime if EFIS is in displayable mode; Vertical Profile not selected		
Manual deselect	Anytime if EFIS is in displayable mode; Vertical Profile not selected. If Vertical Profile selected, then automatic deselect		
Auto Range	Yes, (10 NM)		
Moving Marker	No		
Overlay Page	No		
Display Priority	Standard		
Display bus type	Standard		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay for ARINC 708 WXR Input #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay for ARINC 708 WXR Input #2		

*Item for Honeywell internal use only

[1] Display software level 14 required for integrated display and popup.

Display *Configuration* Group 24 (Astronautics EFIS), Auto Range Enabled

Function	Value		Reference section
Display Type	Astronautics EFIS, for Airforce Boeing E4B aircraft		SRD 8.30.R10*
Sweep Type	Fan		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (added in –210-210)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Selection controlled by display		
Manual deselect	Selection controlled by display		
Auto Range	Yes (10NM)		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: "TERR" is located at the lower left of the display. With Peaks: Peaks numbers are located at the lower left of the display.		
Display Priority	Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

The display controls the selection relays and can use the Terrain Pop Up disable discrete to not allow selection if Terrain is already being displayed (feature added in –212).

Display *Configuration* Group 25 (Bendix EFIS 10 display, RDS86 radar system)

Function	Value		Reference section
Display Type	Bendix EFIS 10		SRD 8.28.R10*
Sweep Type	Normal, Sweep range +/- 90 degrees		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Terrain Caution or Warning.[1]	Never Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime[1]		
Manual deselect	Anytime[1]		
Auto Range	No		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: "TERR" is located at the bottom left of the display. With Peaks: Peaks numbers are located at the lower left of the display.		
Display Priority	Standard		
Display bus type	Standard		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay for ARINC 708 WXR Input #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay for ARINC 708 WXR Input #2		

[1] Either weather or a weather test pattern must be displayed before Terrain can be viewed. The white weather annunciation "WX" will still be present when terrain is displayed.

*Item for Honeywell internal use only

Display *Configuration* Group 26 (Boeing Integrated Honeywell LCD EFIS)

Function	Value		Reference section
Display Type	Honeywell LCD EFIS (PFD/ND Mode), used for KC10 aircraft		SRD 8.14.R10*
Sweep Type	Standard		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Never Pop Up	Never Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Encoded for display via special ARINC 453, Label 055		
Manual select	Anytime, controlled by ARINC Label 273, bit 21		
Manual deselect	Anytime, controlled by ARINC Label 273, bit 21		
Auto Range	No		
Moving Marker	No		
Overlay Page	Only for special configuration display page.		
Display Priority	Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Integration notes:

(1) The position of the Terrain Selection Relays 1 (or 2) is monitored by the input discretes normally assigned for Terrain selection but not required for this configuration since ARINC 429 Label 273 bit 11 controls selection. When a relay is selected a ground state will be passed through the relay contacts to the Terrain Relay Monitor #1 (or #2). If the state of the relays doesn't agree with the EGPWS internal state (after 5 seconds), as selected by the ARINC label 273, bit 21, then a "Terrain Relay 1 (or 2) Fault" will be indicated by Present Status and/or Level 2 self test.

(2) This display was incorrectly configured in the -213 release using the EFIS MAP format; release -214 changed it to the correct PFD/ND format.

Display *Configuration* Group 27 (Astronautics EFIS with binary 429 peaks elevations)

Function	Value		Reference section
Display Type	Astronautics EFIS, for Airforce Boeing VC25 aircraft (Airforce 1)		SRD 8.30.R20*
Sweep Type	Fan		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode (added in –210-210)	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Data passed by ARINC 429, Labels 011 and 012 (binary)		
Manual select	Selection controlled by display		
Manual deselect	Selection controlled by display		
Auto Range	Yes (10NM)		
Moving Marker	No		
Overlay Page			
Display Priority	Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Integration notes:

This display uses the following ARINC 429 labels from the EGPWS for annunciation's:

Label 011/012 Upper/Lower Peaks Elevations

Label 051 If Bit 11 = 1 then Pop Up Terrain on EHSI
If Bit 13 = 0 and TERR is selected then display "TERRAIN FAIL" message on EHSI.
If Bit 17 = 1 and TERR is selected then display "TERRAIN INHIBIT" message on EHSI.
If Bit 26 =1 then display amber "GND PROX" on EADI.
If Bit 27 =1 then display red "PULL UP" on EADI.

Label 271 If any one of bits 24, 23, 21, 19, 13 are = 1 then display Amber "GND PROX" message on EADI.
If any either bit 22 or 20 = 1 then display Red "PULL UP" message on EADI.
If bit 27 = 1 then display amber "TERRAIN" message on EHSI.
If bit 28 = 1 then display red "TERRAIN" message on EHSI
If bit 29 = 1 then display red "WINDSHEAR" message on EADI.

Label 300 If bit 28 = 1 then display amber "OBSTACLE" message on EHSI.
If bit 29 = 1 then display red "OBSTACLE" message on EHSI.

The display controls the selection relays and can use the Terrain Pop Up disable discrete to not allow selection if Terrain is already being displayed (feature added in –212).

Display *Configuration* Group 28 (Bendix EFIS 10 display, RDR4 Radar System)

Function	Value		Reference section
Display Type	Bendix EFIS 10 (RDR 4 Radar color palette)		SRD 8.28.R20*
Sweep Type	Normal, Sweep range +/- 90 degrees		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Terrain Caution or Warning.[1]	Never Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime[1]		
Manual deselect	Anytime[1]		
Auto Range	No		
Moving Marker	No		
Overlay Page	Yes; "TERR" and Peaks Elevations are located on the bottom left side of the display. (No cyan or blue for sea level water)		
Display Priority	Standard		
Display bus type	Standard		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay for ARINC 708 WXR Input #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay for ARINC 708 WXR Input #2		

[1] Weather must be selected by the EFIS but the radar does not have to be on for terrain to be displayed. The white weather annunciation "MAP" will be present when terrain is displayed. The 5 NM EFIS range will blank the display of terrain but does not change the "MAP" annunciation.

*Item for Honeywell internal use only

Display *Configuration* Group 29 (Bendix RDR 4A/B PPI Moded to support CYAN)

Function	Value		Reference section
Display Type	Bendix PPI-4A/4B (MAP-MODE)		SRD 8.23.R30*
Sweep Type	Standard		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning from neither	Never Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	Yes (10NM)		
Moving Marker	No		
Overlay Page	Without Peaks: "TERR" located in the lower right corner. With Peaks: Peaks numbers lower right corner. Sea level water will be colored CYAN.		
Display Priority	Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 30 (Honeywell Integrated Primus Epic CDS and CDS/R, overlay Peaks Elevations)

Function	Value		Reference section
Display Type	Honeywell Integrated Primus Epic CDS and CDS/R, overlay peaks elevations		SRD 8.31.R10*
Sweep Type	Honeywell		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	This program pin has no effect; however, the EFIS can be configured to disable Pop Up.	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevation	Via Overlay Page		
Selection	Display system controls selection using EGPWS 429 Label 274 bits 28 and 29.		
Auto Range	Yes (10NM)		
Moving Marker	No		
Overlay Page	Yes, for Peaks Elevations only (located on lower right side)		
Display Priority	Standard		
Display bus type	Honeywell picture bus		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Honeywell left/right interleaved picture bus to MFD and PFD		

*Item for Honeywell internal use only

Integration notes:

1. The EGPWS ARINC 429 Output Bus must be connected to the display.
2. Display channels 1 and 2 are multiplexed on **ARINC 453 Bus 1.**
3. This display uses the following ARINC 429 labels from the EGPWS for annunciation's:

Label 050	If bits 11-14 left range output from EGPWS does not match left MFD range (via label 171), then display white "RANGE MISMATCH" on left PFD and MFD. If bits 15-18 right range output from EGPWS does not match right MFD range (via label 171), then display white "RANGE MISMATCH" on right PFD and MFD.
Label 051	If Bit 17 = 1 then display white "TERRAIN OFF" message on PFD and MFD
Labels 052-055	EGPWS ASCII characters are not used. Green TERRAIN on PFD and MFD by EFIS.
Label 274	If Bit 13 or 22 =1 then display red "PULL UP" on left and right PFD. If Bit 12 or 23 =1 then display amber "GND PROX" on left and right PFD. If Bit 14 = 1 then display white "GPWS FAIL" message on PFD. If Bit 15 = 1 then display red "WIND SHR" message on PFD. If Bit 17 = 1 then display white "WNDSHR FAIL" message on PFD. If Bit 18 = 1 then display amber "WIND SHR" message on PFD. If Bit 24 = 1 then display amber "TERRAIN FAIL" message on PFD and MFD. If Bit 27 = 1 then display amber "TERRAIN NA" message on PFD and MFD. If Bit 28 = 1 and display configured for pop on Pilots side, then Pop Up Terrain on left MFD. If Bit 29 = 1 and display configured for pop on CoPilots side, then Pop Up Terrain on right MFD. If Bit 14, Bit 17, and Bit 24 = 1 then display amber "EGPWS SYS FAIL" on PFD in lieu of "GPWS FAIL" and "WNDSHR FAIL" messages on the PFD. If bits 30 and 31 = 01 (functional test) then display white "TERRAIN TEST" on PFD and MFD.

Note that terrain can be displayed on the PFD and MFD.

Display *Configuration* Group 31 (Honeywell Integrated Primus Epic CDS and CDS/R, binary Peaks Elevations)

Function	Value		Reference section
Display Type	Honeywell Integrated Primus Epic CDS and CDS/R, binary peaks elevations)		SRD 8.31.R20*
Sweep Type	Honeywell		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	This program pin has no effect; however, the EFIS can be configured to disable Pop Up.	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Data passed by ARINC 429, Labels 011 and 012 (binary)		
Selection	Display system controls selection using EGPWS 429 Label 274 bits 28 and 29.		
Auto Range	Yes (10NM)		
Moving Marker	No		
Overlay Page	No		
Display Priority	Standard		
Display bus type	Honeywell picture bus		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Honeywell left/right interleaved picture bus to MFD and PFD		

*Item for Honeywell internal use only

Integration notes:

1. The EGPWS ARINC 429 Output Bus must be connected to the display.
2. Display channels 1 and 2 are multiplexed on **ARINC 453 Bus 1.**
3. This display uses the following ARINC 429 labels from the EGPWS for annunciation's:

Label 011/012	Upper/Lower Peaks Elevations – "xxx/xxx" on PFD and MFD.
Label 050	If bits 11-14 left range output from EGPWS does not match left MFD range (via label 171), then display white "RANGE MISMATCH" on left PFD and MFD. If bits 15-18 right range output from EGPWS does not match right MFD range (via label 171), then display white "RANGE MISMATCH" on right PFD and MFD.
Label 051	If Bit 17 = 1 then display white "TERRAIN OFF" message on PFD and MFD
Labels 052-055	EGPWS ASCII characters are not used. Green TERRAIN on PFD and MFD by EFIS.
Label 274	If Bit 13 or 22 =1 then display red "PULL UP" on left and right PFD. If Bit 12 or 23 =1 then display amber "GND PROX" on left and right PFD. If Bit 14 = 1 then display white "GPWS FAIL" message on PFD. If Bit 15 = 1 then display red "WIND SHR" message on PFD. If Bit 17 = 1 then display white "WNDSHR FAIL" message on PFD. If Bit 18 = 1 then display amber "WIND SHR" message on PFD. If Bit 24 = 1 then display amber "TERRAIN FAIL" message on PFD and MFD. If Bit 27 = 1 then display amber "TERRAIN NA" message on PFD and MFD. If Bit 28 = 1 and display configured for pop on Pilots side, then Pop Up Terrain on left MFD. If Bit 29 = 1 and display configured for pop on CoPilots side, then Pop Up Terrain on right MFD. If Bit 14, Bit 17, and Bit 24 = 1 then display amber "EGPWS SYS FAIL" on PFD in lieu of "GPWS FAIL" and "WNDSHR FAIL" messages on the PFD. If bits 30 and 31 = 01 (functional test) then display white "TERRAIN TEST" on PFD and MFD.

Note that terrain can be displayed on the PFD and MFD.

Display *Configuration* Group 32 (Bendix RDR 4A/B PPI without Autoranging)

Function	Value		Reference section
Display Type	Bendix PPI-4A/4B (MAP-MODE)		SRD 8.23.R60*
Sweep Type	Standard		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning from neither	Never Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	No		
Overlay Page	Yes; Without Peaks: “TERR” is located in the lower right of the display. With Peaks: Peaks numbers are located in the lower right of the display.		
Display Priority	Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 33 (Bendix RDR 4A/B PPI without Autoranging, Moded to support CYAN)

Function	Value		Reference section
Display Type	Bendix PPI-4A/4B (MAP-MODE)		SRD 8.23.R70*
Sweep Type	Standard		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning from neither	Never Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	No		
Overlay Page	Without Peaks: "TERR" located in the lower right corner. With Peaks: Peaks numbers lower right corner. Sea level water will be colored CYAN.		
Display Priority	Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 34 (Collins FPI-920 with selection controlled by the display)

Function	Value		Reference section
Display Type	Collins FPI-920, 5 ATI (derivative of FDS-255 with ARINC 429 binary Peaks Elevations)		SRD 8.4.R40*
Sweep Type	Fan		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Data passed by ARINC 429, Labels 011 and 012 (binary)		
Manual select	Selection controlled by display		
Manual deselect	Selection controlled by display		
Auto Range	No		
Moving Marker	No		
Overlay Page	No		
Display Priority	Standard		
Display bus type	Standard		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 35 (KC Picture Bus[3]) without Terrain Awareness Corrected Altitude overlay

Function	Value		Reference section
Display Type	KC Picture Bus **(KCPB)** w/o Ref Alt disabled		SRD 8.17.R20[1]
Sweep Type	Curtain (Vertical or Horizontal scan)		
Auto Pop Up	Table 5.2.10: Options Select Group #1 (Ppin 10) [2]		5.2.10
	TA&D Alternate Pop Up Selection **False**	TA&D Alternate Pop Up Selection **True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode	**Table 5.2.17: Options Select Group #4 (Ppin 23)**		5.2.17
	Peaks Enabled Selection **False**	Peaks Enabled Selection **True**	
	Peaks Off	Peaks On	
Peaks Elevations	The display of Peaks Elevations digits is controlled by Display Response and can be via: overlay, or ARINC 453 Label (024 or 025)		
Manual select	None (Selecting controlled by display)		
Manual deselect	None (Deselecting controlled by display)		
Auto Range	Can be controlled by Display Response (if selected a 10 NM range will be used)		
Moving Marker	None		
Overlay Page	Controlled by display		
Display Priority	Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	KCPB		
CHANNEL TX453_1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data		
CHANNEL TX453_2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data		

[1] Item for internal Honeywell use only

[2] Some displays may use the Terrain Caution and Warning discretes to trigger a Pop Up – this type of display will not be affected by this program pin (See Integration Note 2).

[3] KCPB was formally known as ASPB (AlliedSignal Picture Bus) prior to –212–212.

Integration Notes:

1) Many **KCPB** options can be configured by the ARINC 429 Response input (Label 011) which is received from the display.

2) EGPWS ARINC 429 Output, Label 274, bits 28 /29 and Label 051 bit 11/12 will be set to "1" only during a Terrain Caution or Warning. These bit will be disabled when the Alternate Pop Program Pin is **True**.

3) This configuration disables the presentation Terrain Awareness Corrected Altitude and "GSL".

Display *Configuration* Group 36 (Bendix RDR 4A/B PPI without Autoranging, Moded to support CYAN)

Function	Value		Reference section
Display Type	Bendix PPI-4A/4B (MAP-MODE)		SRD 8.23.R80*
Sweep Type	Standard		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
(Contained Pop Up) [1]	Pop Up On Caution or Warning from neither	Never Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	No		
Overlay Page	Without Peaks: "TERR" located in the lower right corner. With Peaks: Peaks numbers lower right corner. Sea level water will be colored CYAN.		
Display Priority	Special (Terrain Warn, PWS Warn, Terrain Caution, PWS Caution)		
Display bus type	Standard ARINC 453		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

[1] Contained Pop Up means that if Terrain is being displayed on one display then a Pop Up will not occur on the other display in the event of a Terrain Caution or Warning.

Display *Configuration* Group 37 (Honeywell "bolt-on" EDZ802 and similar)

Function	Value		Reference section
Display Type	Honeywell "bolt-on" EDZ802.		SRD 8.6.R40*
Sweep Type	Honeywell		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Always Enable		
Peaks Elevations	Via Overlay Page		
Manual select	Anytime if WX displayable mode		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	Yes - An magenta underline a will be alternately placed and removed under the Peaks Elevations.		
Overlay Page	Yes, for Peaks Elevations (located near the vertical center on the right edge of the Terrain image)		
Display bus type	Honeywell picture bus (WXPD)		
TERRAIN DISPLAY BUS #1 453TX_1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
TERRAIN DISPLAY BUS #2 453TX_2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*The SRD is a Honeywell proprietary document. This note is intended for internal Honeywell use only.

Integration Notes:

1. This display does not use EGPWS 429 output bus.
2. The WX color palette is not compatible with Terrain when "GMAP" is selected; Terrain will not be allowed to be displayed in this mode.
3. The MKVII has a single Mode/Range (SCI) input bus, therefore all displays with Terrain selected, must use the same source for ranges data.

Display *Configuration* Group 38 (Honeywell non-integrated "bolt-on" EDZ806 and similar)

Function	Value		Reference section
Display Type	Honeywell "bolt-on" EDZ806.		SRD 8.7.R20*
Sweep Type	Honeywell		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Always Enable		
Peaks Elevations	Via Overlay Page		
Manual select	Anytime if WX displayable mode		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	Yes - An magenta underline a will be alternately placed and removed under the Peaks Elevations.		
Overlay Page	Yes, for Peaks Elevations (located near the vertical center on the right edge of the Terrain image)		
Display bus type	Honeywell picture bus (WXPD)		
TERRAIN DISPLAY BUS #1 453TX_1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
TERRAIN DISPLAY BUS #2 453TX_2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*The SRD is a Honeywell proprietary document. This note is intended for internal Honeywell use only.

Integration Notes:

1. This display does not use EGPWS 429 output bus.
2. The WXR color palette is not compatible with Terrain when "GMAP" is selected; Terrain will not be allowed to be displayed in this mode.
3. The MKVII has a single Mode/Range (SCI) input bus, therefore all displays with Terrain selected must use the same source for ranges data.

Display *Configuration* Group 39 (Honeywell non-integrated "bolt-on" VIA DEU (P/N: 4081560-904)

Function	Value		Reference section
Display Type	Honeywell "bolt-on" VIA DEU		SRD 8.22.R20*
Sweep Type	Honeywell		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning	Never Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Always Enable		
Peaks Elevations	Via Overlay Page		
Manual select	Anytime		
Manual deselect	Anytime		
Auto Range	No		
Moving Marker	No		
Overlay Page	Yes, located at the lower left of the Terrain image.		
Display bus type	ARINC 708		
TERRAIN DISPLAY BUS #1 453TX_1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
TERRAIN DISPLAY BUS #2 453TX_2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

* The SRD is a Honeywell proprietary document. This note is intended for internal Honeywell use only.

Integration Notes:

1. Terrain selection relays can Pop-Up or be manually selected even if the DEU is not in a mode that can display the Terrain image.
2. Terrain will only be displayed if the WXR is on and the display is in "MAP" or "VOR/ILS" mode.
3. The WXR "TLT" annunciation will be shown with a value of "0.0".
4. The WXR "MAP" annunciation will be shown.
5. This display rotates the weathers image, between radar sweeps, as a function of the turn rate. This motion compensation will cause the embedded Peaks Elevations or "TERR" characters in non-Peaks mode, to rotate off the screen during steep turns. The Text image will re-syncs with each new radar sweep (every 3.3 seconds).
6. This integration requires that a "Heading Up" mode always be used - this is the current Saudi Operational Program Configuration (OPC).defined for the DEUs.
7. The Saudi aircraft use RDR-4B PWS radar which will require the use of the PWS hazard bus to allow deselection of Terrain if a higher priority PWS event occurs.

Display *Configuration* Group 40 (Integrated Honeywell DU-1080 EFIS)

Function	Value		Reference section
Display Type	Integrated Honeywell DU-1080 EFIS		SRD 8.27.R10*
Sweep Type	Fan		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: False	**TA&D Alternate Pop Up: True**	
	Pop Up On Caution or Warning from neither	Never Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.16
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Data passed by ARINC 429, Labels 011 and 012 (binary)		
Manual select	Controlled by EFIS		
Manual deselect	Controlled by EFIS		
Auto Range	Yes (10NM)		
Moving Marker	No		
Overlay Page	No		
Display Priority	Standard		
Display bus type	ARINC 708 Standard Data Format		
CHANNEL TX453-1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
CHANNEL TX453-2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Display *Configuration* Group 41 (Collins ProLine 21, Integrated, with Overlay Peaks Elevation and Partial Compass Raster Patch)

Function	Value		Reference section
Display Type	Collins ProLine 21		SRD 8.16.R40*
Sweep Type	Fan mode, sweep range +/- 90 degrees		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: **True**	TA&D Alternate Pop Up: **True**	
	Display Controls Pop Up	Display Controls Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via Overlay Page		
Manual select	Controlled by Display		
Manual deselect	Controlled by Display		
Auto Range	Yes (10NM)		
Moving Marker	No		
Overlay Page	Yes, for Peaks Elevations only, located at the upper, right side of the display.		
Display Priority	Standard		
Display bus type	ARINC Compatible Format – Collins ProLine 4 and 21 (label 077)		
TERRAIN DISPLAY BUS #1 453TX_1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
TERRAIN DISPLAY BUS #2 453TX_2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Integration Notes:

1. The EGPWS ARINC 429 Output Bus must be connected to the display.
2. The Terrain Display will pop-up in response to EGPWS label 274, bit 28 (left display) and bit 29 (right display).
3. This configuration will cause the GPWS INOP, TERRAIN INOP, and WINDSHEAR INOP annunciations to turn on only at the beginning of the EGPWS Self Test.
4. When interfacing to a single display controller configuration, the bus must be connected to both EGPWS input channels. This prevents the EGPWS from reporting an external bus fault on the second channel.

Display *Configuration* Group 42 (Collins ProLine 21, Integrated, with ARINC 429 Binary Peaks Elevation and Full Compass Raster Patch)

Function	Value		Reference section
Display Type	Collins ProLine 21		SRD 8.16.R50*
Sweep Type	Fan mode, sweep range +/- 90 degrees		
Auto Pop Up	**Category 10, Options Select Group #1**		5.2.10
	TA&D Alternate Pop Up: **True**	TA&D Alternate Pop Up: **True**	
	Display Controls Pop Up	Display Controls Pop Up	
Peaks Mode	**Category 17, Options Select Group #4**		5.2.17
	Peaks Enable: False	**Peaks Enable: True**	
	Peaks Off	Peaks On	
Peaks Elevations	Via ARINC 429 Binary Labels		
Manual select	Controlled by Display		
Manual deselect	Controlled by Display		
Auto Range	Yes (10NM)		
Moving Marker	No		
Overlay Page	No		
Display Priority	Standard		
Display bus type	ARINC Compatible Format – Collins ProLine 4 and 21 (label 077)		
TERRAIN DISPLAY BUS #1 453TX_1	**CONNECT TO:**		
A = J1A-15 B = J1A-16	Terrain Display data to switching relay/Symbol Generator #1		
TERRAIN DISPLAY BUS #2 453TX_2	**CONNECT TO:**		
A = J1B-35 B = J1B-36	Terrain Display data to switching relay/Symbol Generator #2		

*Item for Honeywell internal use only

Integration Notes:

1. The EGPWS ARINC 429 Output Bus must be connected to the display.
2. The Terrain Display will pop-up in response to EGPWS label 274, bit 28 (left display) and bit 29 (right display).
3. This configuration will cause the GPWS INOP, TERRAIN INOP, and WINDSHEAR INOP annunciations to turn on only at the beginning of the EGPWS Self Test.
4. When interfacing to a single display controller configuration, the bus must be connected to both EGPWS input channels. This prevents the EGPWS from reporting an external bus fault on the second channel.

5.2.7.2 Display *Input Control* Selection

Display *Input Control* Group 0

CHANNEL RX429-3	**CONNECT TO: WX-IND 429 out (range) Bus 1 (Low Speed)**		**Fault Designation: DISPLAY BUS 1 Bus Type: TA&D**					
A = J2-K08 B = J2-K09	Data Range (Display Word 2)	Reference 6.1.7.3	Label 271	Sig. Bits Discrete	Range 5-320NM	Signal Type TA&D	Resolution N/A	Rate (ms) 100
CHANNEL RX429-1	**CONNECT TO: WX-IND 429 out (range) Bus 2 (Low Speed)**		**Fault Designation: DISPLAY BUS 2 Bus Type: TA&D**					
A = J2-C06 B = J2-C07	Data Range (Display Word 2)	Reference 6.1.7.3	Label 271	Sig. Bits Discrete	Range 5-320NM	Signal Type TA&D	Resolution N/A	Rate (ms) 100

CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**	**Polarity/Configuration**
J2-F07	Gnd Disc 05	Input	Display Select Discrete #1	Type 1 (Momentary)
J2-H09	Gnd Disc 06	Input	Display Select Discrete #2	Type 1 (Momentary)

Display *Input Control* Group 1

CHANNEL RX429-16	**CONNECT TO: MG Multifunction SG (Left Bus) Low Speed 429**		**Fault Designation: EFIS BUS[1] Bus Type: TA&D Note: Provides range unless MG is not backing up right side (see channel 17).**					
A = J2-C13 B = J2-C14	Data Range (Both ranges on one word)	Reference 6.1.7.9	Label 050	Sig. Bits 4/4	Range 2000NM Discrete	Signal Type TA&D	Resolution N/A	Rate (ms) 100
CHANNEL RX429-17	**CONNECT TO: MG Multifunction SG (Rt. Bus) Low Speed 429**		**Fault Designation: EFIS BUS[1] Bus Type: TA&D Note: Only provides range if MG backing up right side, MG input on channel 16 is primary input.**					
A = J2-B14 B = J2-B15	Data Range (Both ranges on one word)	Reference 6.1.7.9	Label 050	Sig. Bits 4/4	Range 2000NM Discrete	Signal Type TA&D	Resolution N/A	Rate (ms) 100

Note: In section 5.2.14, do not connect Wx/EGPWS Display Select Discrete #1 or #2 (J2-F02, J1A-13). The Honeywell EFIS SG & MG provide terrain display relay control.

Display *Input Control* Group 2

CHANNEL RX429-16	**CONNECT TO: WX-IND 429 out (range) Bus 1 (Low Speed)**		**Fault Designation: DISPLAY BUS 1 Bus Type: TA&D**					
A = J2-C13 B = J2-C14	Data Range (Display Word 2)	Reference 6.1.7.3	Label 271	Sig. Bits Discrete	Range 5-320NM	Signal Type TA&D	Resolution N/A	Rate (ms) 100
CHANNEL RX429-17	**CONNECT TO: WX-IND 429 out (range) Bus 2 (Low Speed)**		**Fault Designation: DISPLAY BUS 2 Bus Type: TA&D**					
A = J2-B14 B = J2-B15	Data Range (Display Word 2)	Reference 6.1.7.3	Label 271	Sig. Bits Discrete	Range 5-320NM	Signal Type TA&D	Resolution N/A	Rate (ms) 100

CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**	**Polarity/Configuration**
J2-F07	Gnd Disc 05	Input	Display Select Discrete #1	Type 1 (Momentary)
J2-H09	Gnd Disc 06	Input	Display Select Discrete #2	Type 1 (Momentary)

[1] The 'EFIS BUS' fault will be present only if both MG inputs have failed.

Display *Input Control* Group 3

CHANNEL RX429-16	CONNECT TO: No Connection							
A = J2-C13 B = J2-C14								
CHANNEL RX429-17	**CONNECT TO: No Connection**							
A = J2-B14 B = J2-B15								

Display *Input Control* Group 4 (KC 10)

CHANNEL RX429-16	CONNECT TO: (NOTE 3) VIA-GP BUS #1 (High Speed))		Fault Designation: 'EFIS' BUS 1 Bus Type: Basic					
A = J2-C13 B = J2-C14	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	**Decision Height	6.1.2.2	370	Format 2	16,384 Ft	Min/App Min	0.125	100-200
	**Minimum Descent Altitude	6.1.2.6	365	Format 2	±16,384 ft	Min/App Min	0.125	100-200
	Landing Altitude	6.1.3.2.5	127	16	±65,536 ft	Baro Callouts	1.0	200
	*Discrete Word 1 (note 2)	6.1.7.7.6	272	Format 1	n/a	Min/App Min	n/a	100
	MDA Selected (left only)			Bit 27		or TA&D		
	Display Modes Sel (both) (note 1)			Bit 15/28				
	Map Mode orientation (both) (note 1)			Bit 24				
	*Discrete Word 2	6.1.7.7.7	273	Format 4	n/a	Basic	n/a	100-200
	Range (both)			Bits 12-19				
	V1 (left only)			Bit 27				
	Terrain Select (both)			Bit 21				
	*SDI Specific (use both)							
	**SDI Specific (use Left only)							
CHANNEL RX429-17	**CONNECT TO: (NOTE 3) VIA-GP BUS #2 (High Speed))**		**Fault Designation: 'EFIS' BUS 2 Bus Type: Basic**					
A = J2-B14 B = J2-B15	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	**Decision Height	6.1.2.2	370	Format 2	16,384 Ft	Min/App Min	0.125	100-200
	**Minimum Descent Altitude	6.1.2.6	365	Format 2	±16,384 ft	Min/App Min	0.125	100-200
	Landing Altitude	6.1.3.2.5	127	16	±65,536 ft	Baro Callouts	1.0	200
	*Discrete Word 1 (note 2)	6.1.7.7.6	272	Format 1	n/a	Min/App Min	n/a	100
	MDA Selected (left only)			Bit 27		or TA&D		
	Display Modes Sel (both) (note 1)			Bit 28				
	Map Mode orientation (both) (note 1)			Bit 24				
	*Discrete Word 2	6.1.7.7.7	273	Format 4	n/a	Basic	n/a	100-200
	Range (both)			Bits 12-19				
	V1 (left only)			Bit 27				
	Terrain Select (both)			Bit 21				
	*SDI Specific (use both)							
	**SDI Specific (use Left only)							

Note 1: Added in –216.
Note 2: Prior to –216, was SDI left only.
Note 3: Bus speed changed in –216-217. Also removed Terrain monitoring relays.

Display *Input Control* Group 5

Reserved

Display *Input Control* Group 6

CHANNEL RX429-16	CONNECT TO: AFMS Map Control Bus 1 (Low Speed)		Fault Designation: DISPLAY BUS 1 Bus Type: TA&D					
A = J2-C13 B = J2-C14	Data Mode (Display Word 1)	Reference 6.1.7.10.1	Label 272	Sig. Bits Discrete	Modes Map/Plan/INS	Signal Type TA&D	Resolution N/A	Rate (ms) 62.5
	Data Range (Display Word 2)	Reference 6.1.7.10.2	Label 274	Sig. Bits Discrete	Range 10-320NM	Signal Type TA&D	Resolution N/A	Rate (ms) 62.5
CHANNEL RX429-17	**CONNECT TO: AFMS Map Control Bus 2 (Low Speed)**		**Fault Designation: DISPLAY BUS 2 Bus Type: TA&D**					
A = J2-B14 B = J2-B15	Data Mode (Display Word 1)	Reference 6.1.7.10.1	Label 272	Sig. Bits Discrete	Modes Map/Plan/INS	Signal Type TA&D	Resolution N/A	Rate (ms) 62.5
	Data Range (Display Word 2)	Reference 6.1.7.10.2	Label 274	Sig. Bits Discrete	Range 10-320NM	Signal Type TA&D	Resolution N/A	Rate (ms) 62.5

CONN PIN #	CHANNEL DESIGNATION REFERENCE	PIN TYPE	PIN FUNCTION	Polarity/Configuration
J2-F07	Gnd Disc 05	Input	Display Select Discrete #1	Type 1 (Momentary)
J2-E14	Gnd Disc 10	Input	WXR On Discrete #1	Gnd = On Open = Off
J2-D05	Gnd Disc 04	Input	WXR On Discrete #2	Gnd = On Open = Off

Display *Input Control* Group 7

CHANNEL RX422-17	CONNECT TO: Serial Control Interface (SCI) Bus 1 (RS-422) (Low Speed)		Fault Designation: DISPLAY BUS 1 Bus Type: TA&D					
A = J2-B14 B = J2-B15	Data Range (Mode/Range Word)	Reference 6.1.7.11	Label 80	Sig. Bits 4 Discrete	Range 2000NM	Signal Type TA&D	Resolution N/A	Rate (ms) 100

Display *Input Control* Group 8

CHANNEL RX429-16	CONNECT TO: WX-IND 429 out (range) Bus 1 (Low Speed)		Fault Designation: DISPLAY BUS 1 Bus Type: TA&D					
A = J2-C13 B = J2-C14	Data Range	Reference 6.1.7.3	Label 273	Sig. Bits N/A	Range 5-320NM	Signal Type TA&D	Resolution N/A	Rate (ms) 100
CHANNEL RX429-17	**CONNECT TO: WX-IND 429 out (range) Bus 2 (Low Speed)**		**Fault Designation: DISPLAY BUS 2 Bus Type: TA&D**					
A = J2-B14 B = J2-B15	Data Range	Reference 6.1.7.3	Label 273	Sig. Bits N/A	Range 5-320NM	Signal Type TA&D	Resolution N/A	Rate (ms) 100

CONN PIN #	CHANNEL DESIGNATION REFERENCE	PIN TYPE	PIN FUNCTION	Polarity/Configuration
J2-F07	Gnd Disc 05	Input	Display Select Discrete #1	Type 1 (Momentary)
J2-H09	Gnd Disc 06	Input	Display Select Discrete #2	Type 1 (Momentary)

Display *Input Control* Group 9

CHANNEL RX429-16	**CONNECT TO: WX-IND 429 out (range) Bus 1 (Low Speed)**		**Fault Designation: DISPLAY BUS 1 Bus Type: TA&D**					
A = J2-C13	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate
B = J2-C14	Mode (Display Word 1)	6.1.7.2	270	Discrete	Mode, Tilt, Gain	TA&D	N/A	100 ms
	Range (Display Word 2)	6.1.7.3	271	Discrete	5-320NM	TA&D	N/A	100 ms
	Discrete Word (Vertical Profile)	6.1.7.12	273	Discrete	VP Mode, Bit 11	TA&D	N/A	100 ms
CHANNEL RX429-17	**CONNECT TO: WX-IND 429 out (range) Bus 2 (Low Speed)**		**Fault Designation: DISPLAY BUS 2 Bus Type: TA&D**					
A = J2-B14	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate
B = J2-B15	Mode (Display Word 1)	6.1.7.2	270	Discrete	Mode, Tilt, Gain	TA&D	N/A	100 ms
	Range (Display Word 2)	6.1.7.3	271	Discrete	5-320NM	TA&D	N/A	100 ms
	Discrete Word (Vertical Profile)	6.1.7.12	273	Discrete	VP Mode, Bit 11	TA&D	N/A	100 ms

CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**	**Polarity/Configuration**
J2-F07	Gnd Disc 05	Input	Display Select Discrete #1	Type 1 (Momentary)
J2-H09	Gnd Disc 06	Input	Display Select Discrete #2	Type 1 (Momentary)

Display *Input Control* Group 10

CHANNEL RX429-16	**CONNECT TO: IC600 #1 FDR Bus (High Speed 429)**		**Fault Designation: FDR BUS 1 Bus Type: TA&D** **Note: The system only has one range for terrain display on MFD, therefore the range to use depends on the value of label 275, bit 17.**					
A = J2-C13	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-C14	Range	6.1.7.9	050	bits 11-14	2000NM	TA&D	N/A	100 max
	Discrete Word	6.1.7.9.1	275	bit 17	Discrete	TA&D	N/A	500
CHANNEL RX429-17	**CONNECT TO: IC600 #2 FDR Bus (High Speed 429)**		**Fault Designation: FDR BUS 2 Bus Type: TA&D** **Note: The system only has one range for terrain display on MFD, therefore the range to use depends on the value of label 275, bit 17.**					
A = J2-B14	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-B15	Range	6.1.7.9	050	bits 11-14	2000NM	TA&D	N/A	100
	Discrete Word	6.1.7.9.1	275	bit 17	Discrete	TA&D	N/A	500

Display *Input Control* Group 11

CHANNEL RX429-16	CONNECT TO: EFIS SG #1 429 out (range) (Low Speed)		Fault Designation: EFIS BUS 2 Bus Type: TA&D					
A = J2-C13 B = J2-C14	Data Range (Discrete Word)	Reference 6.1.7.3	Label 271	Sig. Bits Discrete	Range N/A	Signal Type TA&D	Resolution N/A	Rate (ms) 100
CHANNEL RX429-17	**CONNECT TO: EFIS SG #2 429 out (range) (Low Speed)**		**Fault Designation: EFIS BUS 4 Bus Type: TA&D**					
A = J2-B14 B = J2-B15	Data Range (Discrete Word)	Reference 6.1.7.3	Label 271	Sig. Bits Discrete	Range N/A	Signal Type TA&D	Resolution N/A	Rate (ms) 100
CHANNEL RX429-1	**CONNECT TO: EFIS SG #1 ISDAS Bus 429 out (High Speed)**		**Fault Designation: EFIS BUS 1 Bus Type: TA&D**					
A = J2-C06 B = J2-C07	Data Display Modes & WXR On/Off Discrete Word 2 (Track Up Status)	Reference 6.1.7.7.3 6.1.7.7.5	Label 105 110	Sig. Bits Discrete Bit 12	Range N/A N/A	Signal Type TA&D TA&D	Resolution N/A N/A	Rate (ms) 1000 1000
CHANNEL RX429-2	**CONNECT TO: EFIS SG #2 ISDAS Bus 429 out (High Speed)**		**Fault Designation: EFIS BUS 3 Bus Type: TA&D**					
A = J2-C08 B = J2-C09	Data Display Modes & WXR On/Off Discrete Word 2 (Track Up Status)	Reference 6.1.7.7.3 6.1.7.7.5	Label 105 110	Sig. Bits Discrete Bit 12	Range N/A N/A	Signal Type TA&D TA&D	Resolution N/A N/A	Rate (ms) 1000 1000

CONN PIN #	CHANNEL DESIGNATION REFERENCE	PIN TYPE	PIN FUNCTION	Polarity/Configuration
J2-F07	Gnd Disc 05	Input	Display Select Discrete #1	Type 1 (Momentary)
J2-H09	Gnd Disc 06	Input	Display Select Discrete #2	Type 1 (Momentary)

Display *Input Control* Group 12

CHANNEL RX429-16	CONNECT TO: WX-IND 429 out (range) Bus 1 (Low Speed)		Fault Designation: DISPLAY BUS 1 Bus Type: TA&D					
A = J2-C13 B = J2-C14	Data Mode (Display Word 1) Range (Display Word 2)	Reference 6.1.7.2 6.1.7.3	Label 270 271	Sig. Bits Discrete Discrete	Range Mode, Tilt, Gain 5-320NM	Signal Type TA&D TA&D	Resolution N/A N/A	Rate 100 ms 100 ms
CHANNEL RX429-17	**CONNECT TO: WX-IND 429 out (range) Bus 2 (Low Speed)**		**Fault Designation: DISPLAY BUS 2 Bus Type: TA&D**					
A = J2-B14 B = J2-B15	Data Mode (Display Word 1) Range (Display Word 2)	Reference 6.1.7.2 6.1.7.3	Label 270 271	Sig. Bits Discrete Discrete	Range Mode, Tilt, Gain 5-320NM	Signal Type TA&D TA&D	Resolution N/A N/A	Rate 100 ms 100 ms

CONN PIN #	CHANNEL DESIGNATION REFERENCE	PIN TYPE	PIN FUNCTION	Polarity/Configuration
J2-F07	Gnd Disc 05	Input	Display Select Discrete #1	Type 1 (Momentary)
J2-H09	Gnd Disc 06	Input	Display Select Discrete #2	Type 1 (Momentary)

Display *Input Control* Group 13 (KCPB)

CHANNEL 429RX_16	**CONNECT TO: KCPB-IND 429 out (range) Bus 1 (Low Speed)**		**Fault Designation: KCPB BUS 1 Bus Type: TA&D**					
A = J2-C13	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-C14	*Range	6.1.7.15	271	11	0.5-1023.5NM	TA&D	0.5NM	250
	Query/ Continuous Response	6.1.7.13	011	Discrete	N/A	TA&D	N/A	1000
	DSU Status Data[1]	6.1.7.16	350	Discrete	N/A	TA&D	N/A	1000
	*Key Press/Display Mode	6.1.7.14	012	Discrete	N/A	TA&D	N/A	250
CHANNEL 429RX_17	**CONNECT TO: KCPB-IND 429 out (range) Bus 2 (Low Speed)**		**Fault Designation: KCPB BUS 2 Bus Type: TA&D**					
A = J2-B14	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-B15	Range	6.1.7.15	271	11	0.5-1023.5NM	TA&D	0.5NM	250
	Query/ Continuous Response	6.1.7.13	011	Discrete	N/A	TA&D	N/A	1000
	DSU Status Data[1]	6.1.7.16	350	Discrete	N/A	TA&D	N/A	1000
	*Key Press/Display Mode	6.1.7.14	012	Discrete	N/A	TA&D	N/A	250

[1] The DSU Status is only present if the display uses an AVTECH Display Switching Unit.
* Label 012 is optional. The current fault and fault history message "RANGE" for label 271 (Range) is not shown if Range Keys are requested on label 012 (Key Press/Display Mode, added in –212–212).

Display *Input Control* Group 14

CHANNEL RX422-17	**CONNECT TO: Serial Control Interface (SCI) Bus 1 (RS-422) (Low Speed)**		**Fault Designation: DISPLAY BUS 1 Bus Type: TA&D**					
A = J2-B14	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-B15	Range (Mode/Range Word)	6.1.7.11	80	4 Discrete	2000NM	TA&D	N/A	100
CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**				**Polarity/Configuration**	
J2-F07	Gnd Disc 05	Input	Display Select Discrete #1				Type 1 (Momentary)	
J2-H09	Gnd Disc 06[1]	Input	Display Select Discrete #2				Type 1 (Momentary)	

[1] Display Select Discrete #2 was added for -217-217 release. The MKVII has a single Mode/Range (SCI) input bus, therefore all displays with Terrain selected must use the same source for ranges data.

Display *Input Control* Group 15 (Astronautics integrated display)

CHANNEL RX429-16	**CONNECT TO: WX-IND 429 out (range) Bus 1 (Low Speed)**		**Fault Designation: DISPLAY BUS 1 Bus Type: TA&D**					
A = J2-C13	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-C14	Range (Display Word 2)	6.1.7.3	271	Discrete	5-320NM	TA&D	N/A	100
CHANNEL RX429-17	**CONNECT TO: WX-IND 429 out (range) Bus 2 (Low Speed)**		**Fault Designation: DISPLAY BUS 2 Bus Type: TA&D**					
A = J2-B14	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
B = J2-B15	Range (Display Word 2)	6.1.7.3	271	Discrete	5-320NM	TA&D	N/A	100
CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**				**Polarity/Configuration**	
J2-H09	Gnd Disc 06	Input	Display Select Discrete #1 (Used as a Pop Up Inhibit) Note: This discrete is usually mapped to J2-F07.				Type 2 (Latched)	

Display *Input Control* Group 16

CHANNEL RX429-16	CONNECT TO: IC1080 #1 FDR Bus (Low Speed 429)		Fault Designation: DISPLAY BUS 1 Bus Type: TA&D					
A = J2-C13 B = J2-C14	Data FWC & GP Discrete Word	Reference 6.1.7.5	Label 171	Sig. Bits Bits 18, 25-28[1]	Range 2000NM	Signal Type TA&D Format 1 Type 2	Resolution N/A	Rate (ms) 100
CHANNEL RX429-17	**CONNECT TO: IC1080 #2 FDR Bus (Low Speed 429)**		**Fault Designation: DISPLAY BUS 2 Bus Type: TA&D**					
A = J2-B14 B = J2-B15	Data FWC & GP Discrete Word	Reference 6.1.7.5	Label 171	Sig. Bits Bits 18, 25-28[1]	Range 2000NM	Signal Type TA&D Format 1 Type 2	Resolution N/A	Rate (ms) 100

[1] Currently the IC1080 sets bits 18 and 25-28. All other bits defined in section 6.1.7.5 are set to 0.

Display *Input Control* Group 17

CHANNEL RX422-17	CONNECT TO: Serial Control Interface (SCI) Bus 1 (RS-422) (Low Speed)		Fault Designation: DISPLAY BUS 1 Bus Type: TA&D					
A = J2-B14 B = J2-B15	Data Range (Mode/Range Word) Status	Reference 6.1.7.11 6.1.7.11.1	Label 80 FF	Sig. Bits 4 Discrete Discrete	Range 2000NM N/A	Signal Type TA&D TA&D	Resolution N/A N/A	Rate (ms) 100 500
CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**				**Polarity/Configuration**	
J2-F07	Gnd Disc 05	Input	Display Select Discrete #1				Type 1 (Momentary)	
J2-H09	Gnd Disc 06[1]	Input	Display Select Discrete #2				Type 1 (Momentary)	

[1] The MKVII has a single Mode/Range (SCI) input bus, therefore all displays with Terrain selected must use the same source for ranges data.

Display *Input Control* Group 18

CHANNEL RX429-16	CONNECT TO: WX-IND 429 out (range) Bus 1 (High Speed)		Fault Designation: DISPLAY BUS 1 Bus Type: TA&D					
A = J2-C13 B = J2-C14	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	**Decision Height	6.1.2.2	370	Format 2	16,384 Ft	Min/App Min	0.125	100-200
	**Minimum Descent Altitude	6.1.2.6	365	Format 2	±16,384 ft	Min/App Min	0.125	100-200
	*Discrete Word 1 MDA Selected (left only) Display Modes Sel (both) Map Mode orientation (both)	6.1.7.7.6	272	Format 1 Bit 27 Bit 15/28 Bit 24	n/a	Min/App Min or TA&D	n/a	100
	*Discrete Word 2 Range (both) V1 (left only) Terrain Select (both) *SDI Specific (use both) **SDI Specific (use Left only)	6.1.7.7.7	273	Format 4 Bits 12-19 Bit 27 Bit 21	n/a	Basic	n/a	100-200
CHANNEL RX429-17	CONNECT TO: WX-IND 429 out (range) Bus 2 (High Speed)		Fault Designation: DISPLAY BUS 2 Bus Type: TA&D					
A = J2-B14 B = J2-B15	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	**Decision Height	6.1.2.2	370	Format 2	16,384 Ft	Min/App Min	0.125	100-200
	**Minimum Descent Altitude	6.1.2.6	365	Format 2	±16,384 ft	Min/App Min	0.125	100-200
	*Discrete Word 1 MDA Selected (left only) Display Modes Sel (both) Map Mode orientation (both)	6.1.7.7.6	272	Format 1 Bit 27 Bit 15/28 Bit 24	n/a	Min/App Min or TA&D	n/a	100
	*Discrete Word 2 Range (both) V1 (left only) Terrain Select (both) *SDI Specific (use both) **SDI Specific (use Left only)	6.1.7.7.7	273	Format 4 Bits 12-19 Bit 27 Bit 21	n/a	Basic	n/a	100-200

Display *Input Control* Group 19

CHANNEL RX429-16	CONNECT TO: IOC-1 (High Speed) Format: ARINC 429		Fault Designation: IOC BUS 1 Bus Type: Basic					
A = J2-C13 B = J2-C14	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Decision Height (Format 3)	6.1.2.7	370	16	8,192 Feet	Min/App Min	0.125	100-200
	MDA (Format 3)	6.1.2.8	170	16	65536 Feet	Min/App Min	1.0	200
	PFD Mode Select Word 1	6.1.17.1	163	Discrete	Type 6	Basic	N/A	200
	PFD Mode Select Word 3	6.1.17.2	176	Discrete	5-640NM	TA&D	N/A	50
	FCC Mode Word 2	6.1.18	271	Discrete	Type 2	Basic	N/A	100
	Selected Course	6.1.6.27	100	11	± 180 Degrees	Basic	0.08789	950-1050
CHANNEL RX429-17	CONNECT TO: IOC-2 (High Speed) Format: ARINC 429		Fault Designation: IOC BUS 2 Bus Type: Basic					
A = J2-B14 B = J2-B15	Data	Reference	Label	Sig. Bits	Range	Signal Type	Resolution	Rate (ms)
	Decision Height (Format 3)	6.1.2.7	370	16	8,192 Feet	Min/App Min	0.125	100-200
	MDA (Format 3)	6.1.2.8	170	16	65536 Feet	Min/App Min	1.0	200
	PFD Mode Select Word 1	6.1.17.1	163	Discrete	Type 6	Basic	N/A	200
	PFD Mode Select Word 3	6.1.17.2	176	Discrete	5-640NM	TA&D	N/A	50
	FCC Mode Word 2	6.1.18	271	Discrete	Type 2	Basic	N/A	100
	Selected Course	6.1.6.27	100	11	± 180 Degrees	Basic	0.08789	950-1050

5.2.7.3 *Output 429 Bus* Selection

***Output 429* Bus Group 0**

Channel	Pins	VSD Enable	Comments
TX429-1 Low Speed	A = J2-C10 B = J2-C11	False	Transmits the following Appendix B (section 7.1) labels sets: 7.1.1.x 7.1.2.x (except Pitch Angle 7.1.2.4 and Roll Angle 7.1.2.5) 7.1.3.x 7.1.5.x 7.1.6.x 7.1.7.x (Note 1) 7.1.19.x (only for displays that enable PKS_429Output) 7.1.20.x 7.1.97 (Note 1).
		True (Note2)	Transmits the following Appendix B (section 7.1) labels sets: 7.1.1.x 7.1.2.x (except Pitch Angle 7.1.2.4 and Roll Angle 7.1.2.5) 7.1.5.x 7.1.6.x 7.1.7.x 7.1.19.x (only for displays that enable PKS_429Output) 7.1.20.x 7.1.98
TX429-3 High Speed	A = J2-A5 B = J2-A6	N/A	Only applicable to –06x part numbers. Regardless of output bus selection, these pins are internally connected to a dedicated ARINC 429 high speed output of the Mercury GPS card. This card transmits Appendix B (section 7.1) Labels sets 7.1.21.x.

Note 1: Not available prior to -224-224 release.
Note 2: VSD selected as part of position per 5.2.6. Support for VSD and corresponding output label set (7.1.98) not available prior to -226-226 release.

***Output 429* Bus Group 1 (For Honeywell internal use only)**[1]

Channel	Pins	Comments
TX429-1 Low Speed	A = J2-C10 B = J2-C11	Transmits the following Appendix B (section 7.1) labels sets: 7.1.1.x Pitch Angle 7.1.2.4 Roll Angle 7.1.2.5
TX429-3 High Speed	A = J2-A5 B = J2-A6	Only applicable to –06x part numbers. Regardless of output bus selection, these pins are internally connected to a dedicated ARINC 429 high speed output of the Mercury GPS card. This card transmits Appendix B (section 7.1) Labels sets 7.1.21.x.

[1] ***Output 429* Bus Group 1 is near its throughput capacity, do not additional labels.**

5.2.8 Category 8, Altitude Callouts (Ppin 24, Ppin 8)

Document Revision History, Section 5.2.8

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/12/97 - A Loos	Table 5.2.8	Add menu 38 to make menu table match the MK V EGPWS	202	202
11/15/97 - A. Loos	Table 5.2.8	Add note to clarify that Approaching Minimums/ Decision Height and Plus xxxx Callouts Require ARINC 429 Label 370, Decision Height Selected	202	202
11/19/97 - A Loos	All	Add effectivity to table 5.2.8, add altitude tone footnote.	202	202
12/19/97 - A Loos	Table 5.2.8	SCR 2484: Changed Effectivity to "future" for menus that require ARINC 429 Label 370 (see Note 2) or barometric altitude above the field (See Note 4). Add note on "Low Volume". Add menu items 91 through 97 to stay consistent with the MK V EGPWS. Add definitions and cross references for menus with female voice.	202	202
01/19/98 - M Calhoun	Table 5.2.8	SCR 2338: Table 5.2.8, revised future menu 38.	204	204
02/10/98 - M Calhoun	Table 5.2.8	SCR 2570: D-2: Added future callout menu 98. SCR 2574: D-2: Added future callout menu 39.	204	204
03/10/98 – B. Breen	Table 5.2.8	SCR 2612: Added callout menu 99 for BA	204	204
06/17/98 – J. Andrew	Table 5.2.8	SCR 2641: Added future callout menu 5 SCR 2797: Added future callout menu 56	206	206
08/11/98 – J. Andrew	Table 5.2.8	SCR 2797: Revised menu 56 to spare.	206	206
10/05/98 – G Ostrom	Table 5.2.8	SCR 3150: Replaced 202 with future and inserted note 2 for menus 41 and 42.	-	-
03-DEC-98 – M Calhoun	Table 5.2.8	SCR 3303: Added callout menus 32 & 35.	-	208
20-JAN-99 – M Calhoun	Table 5.2.8	SCR 3424: Replaced 'Future' with –208 in the effectivity columns for all menus with Approaching Minimums type callouts as Selected DH input is now available in a category 2 ID.	208	208
15-FEB-00 – A Loos	Table 5.2.8.	Add Reference to Category 14 Pin J2-F04 "Altitude Callout Enable Discrete". Correct Note 1, add Pin Numbers.	-	-
17-MAR-99 – A Loos	-	Fixed Revision History Table header format	-	-
15-APR-99 – M Calhoun	Table 5.2.8	SCR 3630: Added menu 34.	210	210
26-MAY-00 – M. Henderson	Table 5.2.8	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
20-JUL-00 – M. Henderson	Table 5.2.8	SCR 5299: Added menu's 60, 62, and 65.	214	214
07-AUG-00 – M. Henderson	Table 5.2.8	SCR 5299: Changed menu's 60 62, and 65 effectivity to "future".	future	future
10-AUG-00 – M. Henderson	Table 5.2.8	SCR 5299: Changed menu's 60 62, and 65 effectivity to "-213".	-213	-213
30-JUL-01 – KCJ	Table 5.2.8	SCR 6284: Added callout menu 59	-214	-214
10-AUG-01 – Krish	All	SCR 5959: Added menu block 100..199 to include 500 callout in any menu (0..99)	-214	-214
18-SEP-01 – Krish	All	SCR 5959: Modified text to include a note saying that 500 will not be called out in female voice.	-214	-214
19-SEP-01 – Krish	Table 5.2.8.A	SCR 5959: Correction in the document	-214	-214
14-NOV-01 – MJC	Table 5.2.8.A	SCR 5959: Clarified menu selection criteria.	-214	-214

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
28-NOV-01 – N Paterson	All	SCR 6053: General Cleanup		
31-JAN-02 – R Gharpure	Table 5.2.8	SCR 5223: Added altitude callout menu ID 31.	-216	-216
21-FEB-02 – R Gharpure	Table 5.2.8	SCR 6742: Added altitude callout menu ID 33.	-216	-216
01-MAR-02 – R Gharpure	Table 5.2.8	SCR 6742: Added "Plus Hundred'' & "Minimums" decision height callouts to menu ID 33.	-216	-216
04-FEB-04 – M. Calhoun	Revised note 2 for Table 5.2.8	Clarified behavior when selecting a menu with Approaching DH calls when the digital DH input is not present.	-	-

The following table provides identification of the Altitude Callouts Menu. Each entry in the ID column corresponds to a particular menu selection. Table 5.2.8 is the same menu selection provided on the MK V EGPWS. However not all menus are currently available because required interfaces are not supported. Menu items that are not currently supported are identified with "future" in the Effectivity columns in Table 5.2.8. Voices are male except as noted.

Table 5.2.8A is a new set of menu items ranging from 100 to 199. These menu items are created to add a 500 callout (not the 'smart' 500) to any of the menu selections 0 to 99. Selecting menus 100 to 199 is done using the program pin 23. (Ppin23 – Ref. 5.2.17). Also see note 2.

For example, if an operator wants to add "500" to menu 23, they would select menu 123. Menu 123 is selected by strapping Ppin8 to state 3, Ppin24 to state 4 and Ppin23 to one of the 4 states (4 thru 7) as indicated in section 5.2.17.

Note 1: J2-F04 must also be grounded to enable Altitude Callouts, see section 5.2.14.

Note 2: If a menu selected in the range 0-99 is shown as 'spare', its equivalent menu in the 100-199 block will also be spare (and not selectable) even though they are all listed as 'Menu X + 500'.

Table 5.2.8: Altitude Callouts (Ppin 24 & 8)

ID	Ppin 8 (J2-A14)	Ppin24 (J2-A13)	MENU	Effectivity	
				App.	Cfg.
0	1	1	100, 50, 30 (LOW VOLUME)[1]	202	202
1	1	2	MINIMUMS-MINIMUMS, 100, 50, 30	202	202
2	1	3	NO MODE 6 CALLOUTS	202	202
3	1	4	100, 30, 20	202	202
4	1	5	APPROACHING MINIMUMS[2], MINIMUMS, 50	208	208
5	1	6	APPROACHING MINIMUMS[2], MINIMUMS, 2500, 50, 40, 30, 20, 10	208	208
6	1	7	100, 30, 10	202	202
7	1	8	MINIMUMS, 200, 100,	202	202
8	1	9	MINIMUMS, 100, 50, 20, 10	202	202
9	1	10	100 TONE, 35 TONE, 20 TONE[3]	202	202
10	2	1	MINIMUMS, 500, 50	202	202
11	2	2	MINIMUMS-MINIMUMS, 1000	202	202
12	2	3	500 TONE [3]	202	202
13	2	4	MINIMUMS, 500, 400, 300, 200, 100, 50, 40, 30, 20, 10	202	202
14	2	5	MINIMUMS, 1000, 500	202	202
15	2	6	MINIMUMS, 1000, 500, 400, 300, 200, 100, 50, 40, 30, 20, 10	202	202
16	2	7	MINIMUMS-MINIMUMS, 200, 100, 50, 40, 30, 20, 10 (LOW VOLUME)[1]	202	202
17	2	8	MINIMUMS-MINIMUMS, 200, 100, 50, 40, 30, 20, 10	202	202
18	2	9	MINIMUMS, 500, 100, 50, 40, 30, 20, 10	202	202
19	2	10	MINIMUMS, 500, 300, 50, 40, 30, 20, 10	202	202
20	3	1	MINIMUMS, 50, 30	202	202
21	3	2	50, 30, 10	202	202
22	3	3	100, 50, 30	202	202
23	3	4	100, 50, 30, 10	202	202
24	3	5	MINIMUMS-MINIMUMS, 50, 40, 30, 20, 10 (LOW VOLUME)[1]	202	202
25	3	6	MINIMUMS-MINIMUMS, 50, 40, 30, 20, 10	202	202
26	3	7	60, 30, 10	202	202
27	3	8	MINIMUMS-MINIMUMS, 300, 100, 50, 40, 30, 20, 10	202	202
28	3	9	MINIMUMS-MINIMUMS	202	202
29	3	10	APPROACHING MINIMUMS[2], MINIMUMS, 500, 50, 40, 30, 20, 10	208	208
30	4	1	MINIMUMS, 500, 200, 100, 50, 40, 30, 20, 10	202	202
31	4	2	RADIO ALTIMETER (female voice @2500), 1000, 800, 500, 400, 300, 200, 100, 50, 40, 30, 20, 15	216	216
32	4	3	2500, 1000, 500, 100, 50, 40, 30, 20, 10	208	208
33	4	4	PLUS HUNDRED, MINIMUMS , 2500, 1000, 500, 100, 50, 30, 20, 10 , 5	216	216

[1] (Low Volume) indicates that audio volume is 6 dB below the Audio Volume selected in 5.2.9. This audio level is not affected by selection of the Mode 6 Volume discrete in 5.2.14.

[2] Prior to –214-214, selection of menus with Approaching Minimums/Decision Height, xxx Above, and Plus xxxx Callouts required that a digital DH input (NOT a DH Discrete) be present in the selected Category 2 ID. If the digital DH input was not present, the GPWS INOP annunciator was activated and the "Mode 6 INOP – No Decision Height" fault was logged. For –214-214 and later, this is no longer the case. However, the Approaching DH type callout will still not function unless a digital DH input is available. For example, if menu 29 is selected, but a digital DH input is not present, the active menu will be MINIMUMS, 500, 50, 40, 30, 20, 10, which will be reflected in the long Level 1 Self Test. This change allows menu standardization between fleets where the DH input may or may not be present.

[3] "500 TONE" Provides 2 SECOND 960 HZ TONE for descent below 500 feet
"100 TONE" Provides 2 SECOND 700 HZ TONE for descent below 100 feet
"35 TONE" Provides 1 SECOND 1400 HZ TONE for descent below 35 feet
"20 TONE" Provides 1/2 SECOND 2800 HZ TONE for descent below 20 feet

ID	Ppin 8 (J2-A14)	Ppin24 (J2-A13)	MENU	Effectivity	
				App.	Cfg.
34	4	5	MINIMUMS, 2500, 500, 100, 50, 40, 30, 20, 10	210	210
35	4	6	2500, 1000 (B) [4], 500(B), 100, 50, 40, 30, 20, 10	208	208
36	4	7	**Spare**		
37	4	8	MINIMUMS, 400, 300, 200, 100, 50, 40, 30, 20, 10	202	202
38	4	9	APPROACHING MINIMUMS [2], MINIMUMS, 2500, 1000, 500, 100, 50, 40, 30, 20, 10. *For -204 this menu changed to have Approaching Minimums instead of Approaching Decision Height and Minimums instead of Decision Height.*	208	208
39	4	10	APPROACHING MINIMUMS [2], MINIMUMS, 500, 100, 50, 40, 30, 20, 10	208	208
40	5	1	1000, 50, 30, 10	202	202
41	5	2	PLUS HUNDRED [2], MINIMUM	208	208
42	5	3	PLUS HUNDRED [2], MINIMUM, 50, 40, 30, 20, 10	208	208
43	5	4	MINIMUMS	202	202
44	5	5	2500, 100, 50, 30	202	202
45	5	6	APPROACHING DECISION HEIGHT[2], MINIMUMS, 2500, 1000, 50, 40, 30, 20, 10	208	208
46	5	7	100, 50, 30, 20, 10	202	202
47	5	8	2500	202	202
48	5	9	APPROACHING MINIMUMS[2], MINIMUMS, 1000(B)[4], 500(B), 100, 50, 30, 20, 10	208	208
49	5	10	MINIMUMS, 100, 50, 40, 30, 20, 10	202	202
50	6	1	100, 50, 30, 20	202	202
51	6	2	APPROACHING MINIMUMS[2], MINIMUMS, 2500, 1000, 500, 400, 300, 200, 100, 50, 40, 30, 20, 10	208	208
52	6	3	50, 30, 20, 10	202	202
53	6	4	RADIO ALTIMETER (@2500), 1000, 100, 50, 30, 20, 10 **Refer to menu 93 for female voices.**	202	202
54	6	5	50 ABOVE[2], DECIDE, RADIO ALTIMETER (@2500), 1000, 100, 50, 30, 20, 10 **Refer to menu 94 for female voices.**	208	208
55	6	6	MINIMUMS, RADIO ALTIMETER (@2500), 1000, 100, 50, 30, 20, 10	202	202
56	6	7	**Spare**		
57	6	8	APPROACHING MINIMUMS[2], MINIMUMS, 1000, 500, 400, 300, 200, 100, 50, 40, 30, 20, 10	208	208
58	6	9	**Spare**		
59	6	10	1000, 500, 100, 50, 30, 10	-214	-214
60	7	1	RADIO ALTIMETER (female voice @2500), 1000, 500, 100, 50, 30, 20, 10	-213	-213
61	7	2	APPROACHING MINIMUMS[2], MINIMUMS, 1000	208	208
62	7	3	50 ABOVE[2] (female voice), DECIDE (female voice), RADIO ALTIMETER (female voice @2500), 1000, 500, 100, 50, 30, 20, 10	-213	-213
63	7	4	Test Menu (not recommended for aircraft use) APPROACHING MINIMUMS[2], MINIMUMS, 1000, 500, 400, 300, 200, 100, 80, 60, 50, 40, 35, 30, 20, 10, 0	208	208
64	7	5	APPROACHING MINIMUMS[2], MINIMUMS-MINIMUMS, 200, 100	208	208
65	7	6	DECIDE (female voice), RADIO ALTIMETER (female voice @2500), 1000, 500, 100, 50, 30, 20, 10	-213	-213
66	7	7	RADIO ALTIMETER (@2500), 1000 **Refer to menu 95 for female voices.**	202	202
67	7	8	MINIMUMS, 2500, 1000	202	202

[4] (B) indicates that altitude is a barometric altitude above the field. This feature is currently not available.

ID	Ppin 8 (J2-A14)	Ppin24 (J2-A13)	MENU	Effectivity	
				App.	Cfg.
68	7	9	2500, 500, 50, 40, 30, 20, 10	202	202
69	7	10	2500, 50, 30, 10	202	202
70	8	1	MINIMUMS-MINIMUMS, 50, 30, 10	202	202
71	8	2	1000, 500, 100, 50, 40, 30, 20, 10	202	202
72	8	3	1000, 100, 50, 30, 20, 10	202	202
73	8	4	MINIMUMS-MINIMUMS, 1000, 500, 100, 50, 40, 30, 20, 10	202	202
74	8	5	500, 30	202	202
75	8	6	50, 40, 30, 20, 10	202	202
76	8	7	MINIMUMS, 2500, 1000, 500, 400, 300, 200, 100, 50, 40, 30, 20, 10	202	202
77	8	8	MINIMUMS, 2500, 1000, 50, 40, 30, 20, 10	202	202
78	8	9	1000	202	202
79	8	10	MINIMUMS-MINIMUMS, 2500, 1000, 500	202	202
80	9	1	MINIMUMS-MINIMUMS, 500, 300, 200, 100, 50	202	202
81	9	2	MINIMUMS-MINIMUMS, 500, 300, 200, 100	202	202
82	9	3	MINIMUMS-MINIMUMS, 1000, 500, 300, 200, 100	202	202
83	9	4	MINIMUMS-MINIMUMS, 1000, 500, 300, 200, 100, 50	202	202
84	9	5	MINIMUMS, RADIO ALTIMETER (@2500), 1000, 500, 400, 300, 200, 100, 50, 40, 30, 20, 10	202	202
85	9	6	PLUS HUNDRED[2], MINIMUMS, 2500, 1000, 50, 40, 30, 20, 10	208	208
86	9	7	MINIMUM, 2500, 1000, 400, 300, 200, 100, 50, 40, 30, 20, 10	202	202
87	9	8	APPROACHING MINIMUMS[2], MINIMUMS, 500, 300, 200, 50, 40, 30, 20, 10	208	208
88	9	9	APPROACHING MINIMUMS[2], MINIMUMS, 1000, 500, 300, 200, 50, 40, 30, 20, 10	208	208
89	9	10	APPROACHING MINIMUMS[2], MINIMUMS, 500, 300, 200, 50, 40, 30, 20, 10, 5	208	208
90	10	1	APPROACHING MINIMUMS[2], MINIMUMS, 1000, 500, 300, 200, 50, 40, 30, 20, 10, 5	208	208
91	10	2	MINIMUMS, 1000, 500, 100, 50, 40, 30, 20, 10	202	202
92	10	3	PLUS HUNDRED[2], MINIMUMS, 60, 30, 10	208	208
93	10	4	RADIO ALTIMETER (female voice @2500), 1000, 100, 50, 30, 20, 10 **Refer to menu 53 for male voices.**	202	202
94	10	5	50 ABOVE[2] (female voice), DECIDE (female voice), RADIO ALTIMETER (female voice @2500), 1000, 100, 50, 30, 20, 10 **Refer to menu 54 for male voices.**	208	208
95	10	6	RADIO ALTIMETER (female voice @2500), 1000 **Refer to menu 66 for male voices.**	202	202
96	10	7	PLUS HUNDRED[2], MINIMUMS, 2500, 1000(B)[4], 500(B), 100, 50, 40, 30, 20, 10	future	Future
97	10	8	PLUS HUNDRED[2], MINIMUMS, 2500, 1000, 500, 50, 40, 30, 20, 10	208	208
98	10	9	50 ABOVE[2] (female voice), DECIDE (female voice), RADIO ALTIMETER (female voice @2500 feet), 1000	208	208
99	10	10	DECIDE (female voice), RADIO ALTIMETER (female voice @2500), 1000, 100, 50, 30, 20, 10	204	204

Table 5.2.8A: Altitude Callouts with a 500 callout (Ppin 23, 24 & 8)

ID	MENU (+ 500 Callout means add '500' if not already present	Effectivity	
		App.	Cfg.
100	Menu 0 + 500 Callout	-214	-214
101	Menu 1 + 500 Callout	-214	-214
102	Menu 2 + 500 Callout	-214	-214
103	Menu 3 + 500 Callout	-214	-214
104	Menu 4 + 500 Callout	-214	-214
105	Menu 5 + 500 Callout	-214	-214
106	Menu 6 + 500 Callout	-214	-214
107	Menu 7 + 500 Callout	-214	-214
108	Menu 8 + 500 Callout	-214	-214
109	Menu 9 + 500 Callout	-214	-214
110	Menu 10 + 500 Callout	-214	-214
111	Menu 11 + 500 Callout	-214	-214
112	Menu 12 + 500 Callout	-214	-214
113	Menu 13 + 500 Callout	-214	-214
114	Menu 14 + 500 Callout	-214	-214
115	Menu 15 + 500 Callout	-214	-214
116	Menu 16 + 500 Callout	-214	-214
117	Menu 17 + 500 Callout	-214	-214
118	Menu 18 + 500 Callout	-214	-214
119	Menu 19 + 500 Callout	-214	-214
120	Menu 20 + 500 Callout	-214	-214
121	Menu 21 + 500 Callout	-214	-214
122	Menu 22 + 500 Callout	-214	-214
123	Menu 23 + 500 Callout	-214	-214
124	Menu 24 + 500 Callout	-214	-214
125	Menu 25 + 500 Callout	-214	-214
126	Menu 26 + 500 Callout	-214	-214
127	Menu 27 + 500 Callout	-214	-214
128	Menu 28 + 500 Callout	-214	-214
129	Menu 29 + 500 Callout	-214	-214
130	Menu 30 + 500 Callout	-214	-214
131	Menu 31 + 500 Callout	-214	-214
132	Menu 32 + 500 Callout	-214	-214
133	Menu 33 + 500 Callout	-214	-214
134	Menu 34 + 500 Callout	-214	-214
135	Menu 35 + 500 Callout	-214	-214
136	Menu 36 + 500 Callout	-214	-214
137	Menu 37 + 500 Callout	-214	-214
138	Menu 38 + 500 Callout	-214	-214
139	Menu 39 + 500 Callout	-214	-214
140	Menu 40 + 500 Callout	-214	-214
141	Menu 41 + 500 Callout	-214	-214
142	Menu 42 + 500 Callout	-214	-214
143	Menu 43 + 500 Callout	-214	-214
144	Menu 44 + 500 Callout	-214	-214

ID	MENU (+ 500 Callout means add '500' if not already present	Effectivity	
		App.	Cfg.
145	Menu 45 + 500 Callout	-214	-214
146	Menu 46 + 500 Callout	-214	-214
147	Menu 47 + 500 Callout	-214	-214
148	Menu 48 + 500 Callout	-214	-214
149	Menu 49 + 500 Callout	-214	-214
150	Menu 50 + 500 Callout	-214	-214
151	Menu 51 + 500 Callout	-214	-214
152	Menu 52 + 500 Callout	-214	-214
153	Menu 53 + 500 Callout	-214	-214
154	Menu 54 + 500 Callout	-214	-214
155	Menu 55 + 500 Callout	-214	-214
156	Menu 56 + 500 Callout	-214	-214
157	Menu 57 + 500 Callout	-214	-214
158	Menu 58 + 500 Callout	-214	-214
159	Menu 59 + 500 Callout	-214	-214
160	Menu 60 + 500 Callout	-214	-214
161	Menu 61 + 500 Callout	-214	-214
162	Menu 62 + 500 Callout	-214	-214
163	Menu 63 + 500 Callout	-214	-214
164	Menu 64 + 500 Callout	-214	-214
165	Menu 65 + 500 Callout	-214	-214
166	Menu 66 + 500 Callout	-214	-214
167	Menu 67 + 500 Callout	-214	-214
168	Menu 68 + 500 Callout	-214	-214
169	Menu 69 + 500 Callout	-214	-214
170	Menu 70 + 500 Callout	-214	-214
171	Menu 71 + 500 Callout	-214	-214
172	Menu 72 + 500 Callout	-214	-214
173	Menu 73 + 500 Callout	-214	-214
174	Menu 74 + 500 Callout	-214	-214
175	Menu 75 + 500 Callout	-214	-214
176	Menu 76 + 500 Callout	-214	-214
177	Menu 77 + 500 Callout	-214	-214
178	Menu 78 + 500 Callout	-214	-214
179	Menu 79 + 500 Callout	-214	-214
180	Menu 80 + 500 Callout	-214	-214
181	Menu 81 + 500 Callout	-214	-214
182	Menu 82 + 500 Callout	-214	-214
183	Menu 83 + 500 Callout	-214	-214
184	Menu 84 + 500 Callout	-214	-214
185	Menu 85 + 500 Callout	-214	-214
186	Menu 86 + 500 Callout	-214	-214
187	Menu 87 + 500 Callout	-214	-214
188	Menu 88 + 500 Callout	-214	-214
189	Menu 89 + 500 Callout	-214	-214
190	Menu 90 + 500 Callout	-214	-214
191	Menu 91 + 500 Callout	-214	-214
192	Menu 92 + 500 Callout	-214	-214

ID	MENU (+ 500 Callout means add '500' if not already present	Effectivity	
		App.	Cfg.
193	Menu 93 + 500 Callout	-214	-214
194	Menu 94 + 500 Callout	-214	-214
195	Menu 95 + 500 Callout	-214	-214
196	Menu 96 + 500 Callout	-214	-214
197	Menu 97 + 500 Callout	-214	-214
198	Menu 98 + 500 Callout	-214	-214
199	Menu 99 + 500 Callout	-214	-214

5.2.9 Category 9, Audio Output Level (Ppin 22)

Document Revision History, Section 5.2.9

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/17/97 - G Ostrom	All	Updated 600 ohm values for each selection and added reference to nominal values in IDs 1, 2, and 3	202	202
11/19/97 - A Loos	All	Add effectivity to table 5.2.9	202	202
11/25/97 - G Ostrom	All	Removed volume type IDs 0 and 3 (8 ohm power 1 and 1.5 Watts) and revised table.	202	202
06/25/98 – B. Breen	All	SCR 2875: Added 3rd output level and alternate Mode 6 Volume option.	206	206
26-MAY-00 – M. Henderson	Table 5.2.9	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
28-NOV-01 – N Paterson	All	SCR 6053: General cleanup		

The following table provides identification of the Audio Output Level. Each entry in the ID column corresponds to a particular nominal alert/warning output level selection (Max, -6, or –3 db) and additionally allows an optional extra –3 db adjustment in the relative level of the Mode 6 callouts (see also §4.2.17 and §5.2.11).

Table 5.2.9: Audio Output Level (Ppin 22)

ID	PP 22 State (J2-A9)	Volume Type	600 ohm Power	8 ohm Power	Alternate Mode 6 Volume	Effectivity App.	Effectivity Cfg.
0	1	Volume Select #1 (MK VII High, Max)	25 mW	2 Watts	Off	202	202
1	2	Volume Select #2 (MK VII Low, -6 db)	4 mW	0.5 Watts	Off	202	202
2	3	Volume Select #3 (MK VII Mid, -3 db)			Off	206	206
3	4	Volume Select #1 (MK VII High, Max)	25 mW	2 Watts	On (-3 db)	206	206
4	5	Volume Select #2 (MK VII Low, -6 db)	4 mW	0.5 Watts	On (-3 db)	206	206
5	6	Volume Select #3 (MK VII Mid, -3 db)			On (-3 db)	206	206
6	7	Invalid	N/A	N/A			
7	8	Invalid	N/A	N/A			
8	9	Invalid	N/A	N/A			
9	10	Invalid	N/A	N/A			

5.2.10. Category 10, Options Select Group #1 (Ppin 10)

Document Revision History, Section 5.2.10

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/12/97 - A Loos	All	Corrected heading/table numbers to 5.2.10	202	202
11/17/97 - G Ostrom	All	Replaced TCF Disable with TA&D Pop up disable	202	202
11/19/97 - A Loos	All	Add effectivity to table 5.2.10	202	202
01/22/98 - M Calhoun	All	SCR 2557: Add Obstacle Awareness Enable.	204	204
07/28/98 – Gary C. Boyd	Table 5.2.10	SCR 2941: Changed name of "TA&D Pop Up Disable" to "TA&D Alternate Pop Up.	206	206
26-MAY-00 – M. Henderson	Table 5.2.10	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
28-NOV-01 – N Paterson	All	SCR 6053: General Cleanup		

The following table provides identification of the Options Select Group #1. Each entry in the ID column corresponds to a particular combination of Obstacle Awareness Enabled, TA&D Alternate Pop Up, and Flap Reversal Select.

Table 5.2.10: Options Select Group #1 (Ppin 10)

ID	PP 10 State (J1A-14)	Obstacle Awareness Enabled (Added in –204)	TA&D Alternate Pop Up [1]	Flap Reversal Select	Effectivity App.	Effectivity Cfg.
0	1	False	False	False	202	202
1	2	False	False	True	202	202
2	3	False	True	False	202	202
3	4	False	True	True	202	202
4	5	True	False	False	204	204
5	6	True	False	True	204	204
6	7	True	True	False	204	204
7	8	True	True	True	204	204
8	9	Invalid	Invalid	Invalid		
9	10	Invalid	Invalid	Invalid		

[1] Prior to -206 this was called "TAD&D Pop up Disable", the function did not change for those aircraft groups.

5.2.11 Category 11, Options Select Group #2 (Ppin 12)

Document Revision History, Section 5.2.11

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/19/97 - A Loos	All	Add effectivity to table 5.2.1	202	202
26-MAY-00 – M. Henderson	Table 5.2.11	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
26-JUL-00 – M. Calhoun	All	Added description of Mode 6 Volume Reduction and Bank Angle Enable.	-	-
14-NOV-01 – M. Calhoun	5.2.11	SCR 5959: Added note 1.	-214	-214
28-NOV-01 – N Paterson	All	SCR 6053: General Cleanup		

The following table provides identification of the Options Select Group #2. Each entry in the ID column corresponds to a particular combination of Mode 6 Volume Reduction, Smart Callout Selected, and Bank Angle Enable. Smart Callout Selected activates the Smart 500 callout in addition to the Callout menu selected in Category 8 (5.2.8). To only activate the Smart Callout, the user would select the null menu (#2) in Table 5.2.8 in addition to the Smart Callout here.

Smart Callout activation is reflected by a "500" callout being spoken at the end of the selected callout menu sequence in the Long Level 1 Self Test. In addition, the Callout menu ID number listed in Category 8 (5.2.8), and the "Smart Callout Selected" configuration message, will both be given during level 3 self test and in the RS232 Present Status display.

When the Bank Angle function is enabled by this program pin, *Bank Angle Selected* will be reported during level 3 self test and in the RS232 Present Status display. If selected, Bank Angle will also be annunciated during the long level 1 self test sequence.

When the Mode 6 Volume Reduction option is enabled by this program pin, all Altitude Callouts, Minimums/Approaching Minimums type callouts and Bank Angle alerts will be given at half volume (-6db from the normal warning volume). *Mode 6 Low Volume Program Pin Selected* will be reported during the level 3 self test and in the RS232 Present Status display.

Table 5.2.11: Options Select Group #2 (Ppin 12)

ID	PP 12 State (J1A-28)	Mode 6 Volume Reduction	Smart Callout Selected See Note 1	Bank Angle Enable	Effectivity App.	Effectivity Cfg.
0	1	False	False	False	202	202
1	2	False	False	True	202	202
2	3	False	True	False	202	202
3	4	False	True	True	202	202
4	5	True	False	False	202	202
5	6	True	False	True	202	202
6	7	True	True	False	202	202
7	8	True	True	True	202	202
8	9	Invalid	Invalid	Invalid		
9	10	Invalid	Invalid	Invalid		

Note 1: Do not select this option if selecting the 'Add 500 Callout Option' in Category 17 (section 5.2.17).

5.2.12 Category 12, Options Select Group #3 (Ppin 11)

Document Revision History, Section 5.2.12

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/19/97 - A Loos	All	Add effectivity to table 5.2.12	202	202
12/16/97 - G Ostrom	All	SCR 2454, Replaced Audio Inhibit Monitor Disable with Audio Inhibit Monitor in table 5.2.12	202	202
03/05/98 – M Calhoun	All	SCR 2556, Replaced Audio Inhibit Monitor in table 5.2.12 with ARINC 743 GPS Select.	204	204
03/26/98 – A. Anderson	Audit Trail	Changed previous audit trail SCR reference from 2454 to 2556.	N/A	N/A
04/22/98 - G Ostrom	All	Revised effectivity for IDs 0 – 7.	204	204
10/09/98 - G Ostrom	All	Added ARINC 743A applicability note.	206	206
01/DEC/98 - MJC	All	SCR 3359: Corrected note to indicate that ARINC 743 (not ARINC 743A) not functional prior to –206.	206	206
26-MAR-99 – J. Kistler	All	Clarified True/False states for Windshear Caution Voice and Audio Declutter	-	-
26-MAY-00 – M. Henderson	Table 5.2.12	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-

The following table provides identification of the Options Select Group #3 . Each entry in the ID column corresponds to a particular combination of Windshear Caution Voice Disable, ARINC 743 (instead of 743A) GPS Selection, and Audio Declutter Disable.

Table 5.2.12: Options Select Group #3 (Ppin 11)

ID	PP 11 State (J1A-27)	Windshear Caution Voice Disable (True = No Caution Voice)	*ARINC 743 GPS Select (See Note)	Audio Declutter Disable (False = Audio Declutter Active)	Effectivity App.	Effectivity Cfg.
0	1	True	False	False	204	204
1	2	True	False	True	204	204
2	3	True	True	False	204	204
3	4	True	True	True	204	204
4	5	False	False	False	204	204
5	6	False	False	True	204	204
6	7	False	True	False	204	204
7	8	False	True	True	204	204
8	9	Invalid	Invalid	Invalid		
9	10	Invalid	Invalid	Invalid		

* Was Audio Inhibit Monitor enable prior to –204-204. Audio Inhibit monitoring is now controlled via category 1.

Note: ARINC 743 GPS selection is not functional prior to 965-1076-0xx-206-206

5.2.13. Category 13, Audio Options Select (Ppin 3)

Document Revision History, Section 5.2.13

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/20/97 - A Loos	All	Add effectivity to table 5.2.13	202	202
12/19/97 - A. Loos	5.2.13-0	Correct typing error in Note 3.	202	202
03/19/98 – G. Ostrom	5.2.13-0,-1,-2,-3,-4,-5,-6	SCR 2536: 5.2.13-1 Replaced "Terrain" with "Obstacle" for Obs preface, warning, and caution. Deleted audio menu #3. For 5.2.13-0,-1,-2,-4,-5,-6 updated/added notes to indicate 204 applicability.	204	204
04/16/98 – G. Ostrom	ALL	Update format of header section numbers	204	204
6/3/98 – A Loos	Table 5.2.13 Table 5.2.13-3	SCR 2819: Add Voice Menu #3, same as #1 except for no "SIREN" prefix to Mode 7 Windshear warning voice.	204	204
11/04/98 – N. Menzies	Tables 5.2.13-0 to 5.2.13-6	SCR 3330: Added the Altitude Alert voice to all these tables.	208	208
11/09/98 – N. Menzies	Tables 5.2.13-0 to 5.2.13-6	SCR 3330: Added the "Autopilot" voice to all these tables.	208	208
19/NOV/98 N. Menzies	Revision History	SCR 3330: Entries for 11/04/98 and 11/09/98 changed to reference SCR 3330.	208	208
20-JAN-99 - NSP	Tables 5.2.13-0 to 5.2.13-6	SCR 3330: Added single "Bank Angle" and "Flaps Flaps" messages.	208	208
21-JAN-99 - NSP	Tables 5.2.13-0 to 5.2.13-6	SCR 3330: Added single "Bank Angle" note with effectivity.		
28-JAN-99 - NSP	Tables 5.2.13-0 to 5.2.13-6	SCR 3330: Added "Altitude Altitude" and effectivity note. Added effectivity note for 960 Hz tone, Autopilot and Flaps Flaps.	208	208
06-APR-99 - MJC	Tables 5.2.13-0 to 5.2.13-6	SCR 3499: Clarified mode 1 outer curve voice message descriptions in all tables. Noted differences in –210 for menu 6.	-	-
17-MAY-99 B Osada	Table 5.2.13	SCR 3891: Tracing fix only. Added "Traceability".	-	-
12-JUL-99 MJC	Tables 5.2.13-0 thru 5.2.13-6.	SCR 4035: Added missing "BankAngle-BankAngle" phrase to all voice tables.	-	-
26-MAY-00 – M. Henderson	Table 5.2.13	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
10-JAN-01 – F. Trowbridge	Tables 5.2.13-0 thru 5.2.13-6.	SCR 5373: In all audio menu tables, added Note 1 as also applying to the Minimums voice.	-	-
14-FEB-01 – Susie Wright	Tables 5.2.13-0 thru 5.2.13-6.	SCR 5809: General document cleanup - Added Notes 8 through 10.	-213	-213
08-OCT-01 – G. Ostrom	Tables 5.2.13-0 thru 5.2.13-6.	SCR 4871: Added Pitch Angle Alert to tables 5.2.13-0 thru 5.2.13-6.	-214	-214
07-MAR-02 – R. Gharpure	Table 5.2.13 Table 5.2.13-7 Table 5.2.13-8	SCR 6750: Added two new alternate audio menus 7 & 8.	-216	-216
12-Mar-02 – A Loos	Tables 5.2.13-0 to -8	SCR 6646: Add "Autopilot-Autopilot" phrase to voice menus as a reference. Voice is not applicable to MK VII EGPWS. Fix "AUTOPILOT ALERT" note, should refer to Mark 5, not Mark 7.	-	-
3-MAY-02 – A Loos	Tables 5.2.13-0 to -8	SCR 6887: Move "AUTOPILOT VOICE" to just above "MODE 6 ALTITUDE CALLOUTS"	-216	-216
29-APR-03 – M Calhoun	Tables 5.2.13-0 to -8	SCR 7503: Added RAAS Voices to all voice menu tables	-218	-218

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
28-Aug-03 – W Hallett		SCR 7503: Changed previous audit trail entry from SCR 7546 to 7503. Documentation only.	-	-
29-Sep-03 – W Hallett	Tables 5.2.13-0 to -8	SCR 7503: Added 2 RAAS voices (Runway advisories and Distance Remaining Callouts) to voice menu tables.	-218	-218

The following table provides identification of the Voice Menu Select. Each entry in the ID column identifies a particular Voice Menu selection. The entry in the Voice Menu Select corresponds to a table that provides detailed information on the configuration. For example, the details for Voice Menu Select #2 are found in Table 5.2.13-2.

Table 5.2.13: Audio Options Select (Ppin 3)

ID	Pin 3 State (J2-B6)	Voice Menu Select (Table 5.2.13-xx)	Effectivity	
			App.	Cfg.
0	1	0	202	202
1	2	1	204	204
2	3	2	202	202
3	4	3	204	204
4	5	4	202	202
5	6	5	202	202
6	7	6	202	202
7	8	7	216	216
8	9	8	216	216

TABLE 5.2.13-0: BASIC AUDIO MENU TYPE 0

ALERT/WARNING CONDITION	BASIC VOICE MENU	NOTES
MODE 7 WINDSHEAR WARNING	(SIREN) WINDSHEAR WINDSHEAR WINDSHEAR	1
MODE 6 BANK ANGLE	BANK ANGLE	1, 5, 6
MODE 1 PULL UP	PULL UP	1
MODE 2 PULL UP PREFACE	TERRAIN TERRAIN	1, 4
MODE 2 PULL UP	PULL UP	1
V1 ALERT	V1	1, 8
ENGINE FAIL ALERT	ENGINE FAIL	1, 8
TERRAIN AWARENESS PREFACE	TERRAIN TERRAIN	1, 4
TERRAIN AWARENESS WARNING	PULL UP	1
OBSTACLE AWARENESS PREFACE	OBSTACLE OBSTACLE	1, 3, 4
OBSTACLE AWARENESS WARNING	PULL UP	1, 3
PWS Windshear Warning	N/A - PWS Voice	
MODE 2 TERRAIN	TERRAIN	
MODE 6 MINIMUMS	SELECTED CALLOUT	1
MODE 6 ALTITUDE	ALTITUDE ALTITUDE	6, 10
TERRAIN AWARENESS CAUTION	CAUTION TERRAIN (PAUSE) CAUTION TERRAIN (7 sec pause)	
OBSTACLE AWARENESS CAUTION	CAUTION OBSTACLE (PAUSE) CAUTION OBSTACLE (7 sec pause)	3
MODE 4 TOO LOW TERRAIN	TOO LOW TERRAIN	
TCF TOO LOW TERRAIN	TOO LOW TERRAIN	
ALTITUDE ALERT	960 HZ TONE	6, 11
AUTOPILOT VOICE	AUTOPILOT- AUTOPILOT	13
MODE 6 ALTITUDE CALLOUTS	SELECTED CALLOUTS	
SPEED BRAKE ALERT	SPEED BRAKE (PAUSE) SPEED BRAKE	8
MODE 4 TOO LOW GEAR	TOO LOW GEAR	
MODE 4 TOO LOW FLAPS	TOO LOW FLAPS	
MODE 1 SINKRATE	SINKRATE Note: The basic warning is "SINKRATE (PAUSE) SINKRATE". However, if the Mode 1 PULL UP curve is violated only a single "Sinkrate" may occur prior to the PULL UP voice.	7
MODE 3 DON'T SINK	DON'T SINK (PAUSE) DON'T SINK	
MODE 5 GLIDESLOPE	GLIDESLOPE	
PWS Windshear Caution	N/A – PWS Voice	
MODE 6 APPROACHING DH	SELECTED CALLOUT	
MODE 6 BANK ANGLE	BANK ANGLE (PAUSE) BANK ANGLE, or BANK ANGLE BANK ANGLE (Honeywell Algorithm at low altitudes)	
MODE 7 WINDSHEAR ALERT	(QUIET) (or CAUTION WINDSHEAR if Caution voice Enabled)	
AUTOPILOT ALERT	AUTOPILOT	6, 8
PITCH ANGLE ALERT	PITCH ATTITUDE PITCH ATTITUDE	12
TAKEOFF FLAP ALERT	FLAPS (PAUSE) FLAPS	6, 9
RAAS RUNWAY ADVISORIES	SELECTED RAAS ADVISORIES	14
RAAS DISTANCE REMAINING CALLOUTS	SELECTED RAAS CALLOUTS	14
TCAS RA	N/A - TCAS Voice (may coincide with Mode 6 voices)	
TCAS TA	N/A - TCAS Voice (may coincide with Mode 6 voices)	

Note 1: These are the only voices that can interrupt.
Note 2: Deleted.
Note 3: Obstacle alerts available in P/N 965-1076-0xx-204-204.
Note 4: The preface voices will always be given prior to the warning voice.
Note 5: Applicable to Bank Angle Types 5 and above (typically military applications).
Note 6: Introduced in 965-1076-0xx-208-208.
Note 7: Long Level 1 Self Test will only issue a single 'Sinkrate".
Note 8: Not applicable to Mark 5 EGPWS.
Note 9: Only applicable to Mode 6 Type 3 (C130).
Note 10: Only applicable to tactical military applications.
Note 11: Only applicable to C141.
Note 12: Introduced in 965-1076-0xx-214-214.
Note 13: Not applicable to Mark 7 EGPWS. Shown for reference only.
Note 14: Introduced in –218-218.

TABLE 5.2.13-1: ALTERNATE AUDIO MENU TYPE 1

ALERT/WARNING CONDITION	ALTERNATE AUDIO MENU #1	NOTES
MODE 7 WINDSHEAR WARNING	(SIREN) WINDSHEAR WINDSHEAR WINDSHEAR	1
MODE 6 BANK ANGLE	BANK ANGLE	1, 8, 9
MODE 1 PULL UP	PULL UP	1
MODE 2 PULL UP PREFACE	TERRAIN TERRAIN	1, 6
MODE 2 PULL UP	PULL UP	1
V1 ALERT	V1	1, 11
ENGINE FAIL ALERT	ENGINE FAIL	1, 11
TERRAIN AWARENESS PREFACE	TERRAIN AHEAD PULL UP	1, 6
TERRAIN AWARENESS WARNING	TERRAIN AHEAD PULL UP	1
OBSTACLE AWARENESS PREFACE	OBSTACLE AHEAD PULL UP	1, 5, 6, 7
OBSTACLE AWARENESS WARNING	OBSTACLE AHEAD PULL UP	1, 5, 7
PWS Windshear Warning	N/A - PWS Voice	
MODE 2 TERRAIN	TERRAIN	
MODE 6 MINIMUMS	SELECTED CALLOUT	1
MODE 6 ALTITUDE	ALTITUDE ALTITUDE	9, 13
TERRAIN AWARENESS CAUTION	TERRAIN AHEAD (PAUSE) TERRAIN AHEAD (7 second pause)	
OBSTACLE AWARENESS CAUTION	OBSTACLE AHEAD (PAUSE) OBSTACLE AHEAD (7 second pause)	5, 7
MODE 4 TOO LOW TERRAIN	TOO LOW TERRAIN	
TCF TOO LOW TERRAIN	TOO LOW TERRAIN	
ALTITUDE ALERT	960 HZ TONE	9, 14
AUTOPILOT VOICE	AUTOPILOT- AUTOPILOT	16
MODE 6 ALTITUDE CALLOUTS	SELECTED CALLOUTS	
SPEED BRAKE ALERT	SPEED BRAKE (PAUSE) SPEED BRAKE	11
MODE 4 TOO LOW GEAR	TOO LOW GEAR	
MODE 4 TOO LOW FLAPS	TOO LOW FLAPS	
MODE 1 SINKRATE	SINKRATE Note: The basic warning is "SINKRATE (PAUSE) SINKRATE". However, if the Mode 1 Pullup curve is violated only a single "Sinkrate" may occur prior to the pull up voice.	10
MODE 3 DON'T SINK	DON'T SINK (PAUSE) DON'T SINK	
MODE 5 GLIDESLOPE	GLIDESLOPE	
PWS Windshear Caution	N/A - PWS Voice	
MODE 6 APPROACHING DH	SELECTED CALLOUT	
MODE 6 BANK ANGLE	BANK ANGLE (PAUSE) BANK ANGLE, or BANK ANGLE BANK ANGLE (Honeywell Algorithm at low altitudes)	
MODE 7 WINDSHEAR ALERT	(QUIET) (or CAUTION WINDSHEAR if Caution voice Enabled)	
AUTOPILOT ALERT	AUTOPILOT	9, 11
PITCH ANGLE ALERT	PITCH ATTITUDE PITCH ATTITUDE	15
TAKEOFF FLAP ALERT	FLAPS (PAUSE) FLAPS	9, 12
RAAS RUNWAY ADVISORIES	SELECTED RAAS ADVISORIES	17
RAAS DISTANCE REMAINING CALLOUTS	SELECTED RAAS CALLOUTS	17
TCAS RA	N/A - TCAS Voice (may coincide with Mode 6 voices)	
TCAS TA	N/A - TCAS Voice (may coincide with Mode 6 voices)	

Note 1: These are the only voices that can interrupt.
Note 2: Deleted.
Note 3: Deleted
Note 4: Deleted
Note 5: Obstacle alerts introduced in P/N 965-1076-0xx-204-204.
Note 6: The preface voices will always be given prior to the warning voice.
Note 7: Changed callout from "TERRAIN" to "OBSTACLE" in P/N 965-1076-0xx-204-204.
Note 8: Applicable to Bank Angle Types 5 and above (typically military applications).
Note 9: Introduced in 965-1076-0xx-208-208.
Note 10: Long Level 1 Self Test will only issue a single 'Sinkrate".
Note 11: Not applicable to Mark 5 EGPWS.
Note 12: Only applicable to Mode 6 Type 3 (C130).
Note 13: Only applicable to tactical military applications.
Note 14: Only applicable to C141.
Note 15: Introduced in 965-1076-0xx-214-214.
Note 16: Not applicable to Mark 7 EGPWS. Shown for reference only.
Note 17: Introduced in –218-218.

TABLE 5.2.13-2: ALTERNATE AUDIO MENU TYPE 2

ALERT/WARNING CONDITION	ALTERNATE AUDIO MENU #2	NOTES
MODE 7 WINDSHEAR WARNING	WINDSHEAR WINDSHEAR WINDSHEAR	1
MODE 6 BANK ANGLE	BANK ANGLE	1, 5, 6
MODE 1 PULL UP	PULL UP	1
MODE 2 PULL UP PREFACE	TERRAIN TERRAIN	1, 4
MODE 2 PULL UP	PULL UP	1
V1 ALERT	V1	1, 8
ENGINE FAIL ALERT	ENGINE FAIL	1, 8
TERRAIN AWARENESS PREFACE	TERRAIN TERRAIN	1, 4
TERRAIN AWARENESS WARNING	PULL UP	1
OBSTACLE AWARENESS PREFACE	OBSTACLE OBSTACLE	1, 3, 4
OBSTACLE AWARENESS WARNING	PULL UP	1, 3
PWS Windshear Warning	N/A - PWS Voice	
MODE 2 TERRAIN	TERRAIN	
MODE 6 MINIMUMS	SELECTED CALLOUT	1
MODE 6 ALTITUDE	ALTITUDE ALTITUDE	6, 10
TERRAIN AWARENESS CAUTION	CAUTION TERRAIN (PAUSE) CAUTION TERRAIN (7 second pause)	
OBSTACLE AWARENESS CAUTION	CAUTION OBSTACLE (PAUSE) CAUTION OBSTACLE (7 second pause)	3
MODE 4 TOO LOW TERRAIN	TOO LOW TERRAIN	
TCF TOO LOW TERRAIN	TOO LOW TERRAIN	
ALTITUDE ALERT	960 HZ TONE	6, 11
AUTOPILOT VOICE	AUTOPILOT- AUTOPILOT	13
MODE 6 ALTITUDE CALLOUTS	SELECTED CALLOUTS	
SPEED BRAKE ALERT	SPEED BRAKE (PAUSE) SPEED BRAKE	8
MODE 4 TOO LOW GEAR	TOO LOW GEAR	
MODE 4 TOO LOW FLAPS	TOO LOW FLAPS	
MODE 1 SINKRATE	SINKRATE Note: The basic warning is "SINKRATE (PAUSE) SINKRATE". However, if the Mode 1 Pullup curve is violated only a single "Sinkrate" may occur prior to the pull up voice.	7
MODE 3 DON'T SINK	DON'T SINK (PAUSE) DON'T SINK	
MODE 5 GLIDESLOPE	GLIDESLOPE	
PWS Windshear Caution	N/A - PWS Voice	
MODE 6 APPROACHING DH	SELECTED CALLOUT	
MODE 6 BANK ANGLE	BANK ANGLE (PAUSE) BANK ANGLE, or BANK ANGLE BANK ANGLE (Honeywell Algorithm at low altitudes)	
MODE 7 WINDSHEAR ALERT	(QUIET) (or CAUTION WINDSHEAR if Caution voice Enabled)	
AUTOPILOT ALERT	AUTOPILOT	6, 8
PITCH ANGLE ALERT	PITCH ATTITUDE PITCH ATTITUDE	12
TAKEOFF FLAP ALERT	FLAPS (PAUSE) FLAPS	6, 9
RAAS RUNWAY ADVISORIES	SELECTED RAAS ADVISORIES	14
RAAS DISTANCE REMAINING CALLOUTS	SELECTED RAAS CALLOUTS	14
TCAS RA	N/A – TCAS Voice (may coincide with Mode 6 voices)	
TCAS TA	N/A – TCAS Voice (may coincide with Mode 6 voices)	

Note 1: These are the only voices that can interrupt.
Note 2: Deleted.
Note 3: Obstacle alerts introduced in P/N 965-1076-0xx-204-204.
Note 4: The preface voices will always be given prior to the warning voice.
Note 5: Applicable to Bank Angle Types 5 and above (typically military applications).
Note 6: Introduced in 965-1076-0xx-208-208.
Note 7: Long Level 1 Self Test will only issue a single 'Sinkrate".
Note 8: Not applicable to Mark 5 EGPWS.
Note 9: Only applicable to Mode 6 Type 3 (C130).
Note 10: Only applicable to tactical military applications.
Note 11: Only applicable to C141.
Note 12: Introduced in 965-1076-0xx-214-214.
Note 13: Not applicable to Mark 7 EGPWS. Shown for reference only.
Note 14: Introduced in –218-218.

TABLE 5.2.13-3: ALTERNATE AUDIO MENU TYPE 3

ALERT/WARNING CONDITION	ALTERNATE AUDIO MENU #3	NOTES
MODE 7 WINDSHEAR WARNING	WINDSHEAR WINDSHEAR WINDSHEAR	1
MODE 6 BANK ANGLE	BANK ANGLE	1, 7, 8
MODE 1 PULL UP	PULL UP	1
MODE 2 PULL UP PREFACE	TERRAIN TERRAIN	1, 6
MODE 2 PULL UP	PULL UP	1
V1 ALERT	V1	1, 10
ENGINE FAIL ALERT	ENGINE FAIL	1, 10
TERRAIN AWARENESS PREFACE	TERRAIN AHEAD PULL UP	1, 6
TERRAIN AWARENESS WARNING	TERRAIN AHEAD PULL UP	1
OBSTACLE AWARENESS PREFACE	OBSTACLE AHEAD PULL UP	1, 5, 6
OBSTACLE AWARENESS WARNING	OBSTACLE AHEAD PULL UP	1, 5
PWS Windshear Warning	N/A - PWS Voice	
MODE 2 TERRAIN	TERRAIN	
MODE 6 MINIMUMS	SELECTED CALLOUT	1
MODE 6 ALTITUDE	ALTITUDE ALTITUDE	8, 12
TERRAIN AWARENESS CAUTION	TERRAIN AHEAD (PAUSE) TERRAIN AHEAD (7 second pause)	
OBSTACLE AWARENESS CAUTION	OBSTACLE AHEAD (PAUSE) OBSTACLE AHEAD (7 second pause)	5
MODE 4 TOO LOW TERRAIN	TOO LOW TERRAIN	
TCF TOO LOW TERRAIN	TOO LOW TERRAIN	
ALTITUDE ALERT	960 HZ TONE	8, 13
AUTOPILOT VOICE	AUTOPILOT- AUTOPILOT	15
MODE 6 ALTITUDE CALLOUTS	SELECTED CALLOUTS	
SPEED BRAKE ALERT	SPEED BRAKE (PAUSE) SPEED BRAKE	10
MODE 4 TOO LOW GEAR	TOO LOW GEAR	
MODE 4 TOO LOW FLAPS	TOO LOW FLAPS	
MODE 1 SINKRATE	SINKRATE Note: The basic warning is "SINKRATE (PAUSE) SINKRATE". However, if the Mode 1 Pullup curve is violated only a single "Sinkrate" may occur prior to the pull up voice.	9
MODE 3 DON'T SINK	DON'T SINK (PAUSE) DON'T SINK	
MODE 5 GLIDESLOPE	GLIDESLOPE	
PWS Windshear Caution	N/A - PWS Voice	
MODE 6 APPROACHING DH	SELECTED CALLOUT	
MODE 6 BANK ANGLE	BANK ANGLE (PAUSE) BANK ANGLE, or BANK ANGLE BANK ANGLE (Honeywell Algorithm at low altitudes)	
MODE 7 WINDSHEAR ALERT	(QUIET) (or CAUTION WINDSHEAR if Caution voice Enabled)	
AUTOPILOT ALERT	AUTOPILOT	8, 10
PITCH ANGLE ALERT	PITCH ATTITUDE PITCH ATTITUDE	14
TAKEOFF FLAP ALERT	FLAPS (PAUSE) FLAPS	8, 11
RAAS RUNWAY ADVISORIES	SELECTED RAAS ADVISORIES	16
RAAS DISTANCE REMAINING CALLOUTS	SELECTED RAAS CALLOUTS	16
TCAS RA	N/A - TCAS Voice (may coincide with Mode 6 voices)	
TCAS TA	N/A - TCAS Voice (may coincide with Mode 6 voices)	

Note 1: These are the only voices that can interrupt.
Note 2: Deleted.
Note 3: Deleted
Note 4: Deleted
Note 5: Obstacle alerts introduced in P/N 965-1076-0xx-204-204.
Note 6: The preface voices will always be given prior to the warning voice.
Note 7: Applicable to Bank Angle Types 5 and above (typically military applications).
Note 8: Introduced in 965-1076-0xx-208-208.
Note 9: Long Self Test will only issue a single 'Sinkrate".
Note 10: Not applicable to Mark 5 EGPWS.
Note 11: Only applicable to Mode 6 Type 3 (C130).
Note 12: Only applicable to tactical military applications.
Note 13: Only applicable to C141.
Note 14: Introduced in 965-1076-0xx-214-214.
Note 15: Not applicable to Mark 7 EGPWS. Shown for reference only.
Note 16: Introduced in –218-218.

TABLE 5.2.13-4: ALTERNATE AUDIO MENU TYPE 4 (MKV SIMULATOR INSTALLATION USAGE)

ALERT/WARNING CONDITION	ALTERNATE AUDIO MENU #4	NOTES
MODE 7 WINDSHEAR WARNING	(SIREN) WINDSHEAR WINDSHEAR WINDSHEAR	1
MODE 6 BANK ANGLE	BANK ANGLE	1, 5, 6
MODE 1 PULL UP	(WHOOP) (WHOOP) PULL UP	1
MODE 2 PULL UP PREFACE	TERRAIN TERRAIN	1, 4
MODE 2 PULL UP	(WHOOP) (WHOOP) PULL UP	1
V1 ALERT	V1	1, 8
ENGINE FAIL ALERT	ENGINE FAIL	1, 8
TERRAIN AWARENESS PREFACE	TERRAIN TERRAIN	1, 4
TERRAIN AWARENESS WARNING	(WHOOP) (WHOOP) PULL UP	1
OBSTACLE AWARENESS PREFACE	OBSTACLE OBSTACLE	1, 3, 4
OBSTACLE AWARENESS WARNING	(WHOOP) (WHOOP) PULL UP	1, 3
PWS Windshear Warning	N/A - PWS Voice	
MODE 2 TERRAIN	TERRAIN	
MODE 6 MINIMUMS	SELECTED CALLOUT	1
MODE 6 ALTITUDE	ALTITUDE ALTITUDE	6, 10
TERRAIN AWARENESS CAUTION	CAUTION TERRAIN (PAUSE) CAUTION TERRAIN (7 second pause)	
OBSTACLE AWARENESS CAUTION	CAUTION OBSTACLE (PAUSE) CAUTION OBSTACLE (7 second pause)	3
MODE 4 TOO LOW TERRAIN	TOO LOW TERRAIN	
TCF TOO LOW TERRAIN	TOO LOW TERRAIN	
ALTITUDE ALERT	960 HZ TONE	6, 11
AUTOPILOT VOICE	AUTOPILOT- AUTOPILOT	13
MODE 6 ALTITUDE CALLOUTS	SELECTED CALLOUTS	
SPEED BRAKE ALERT	SPEED BRAKE (PAUSE) SPEED BRAKE	8
MODE 4 TOO LOW GEAR	TOO LOW GEAR	
MODE 4 TOO LOW FLAPS	TOO LOW FLAPS	
MODE 1 SINKRATE	SINKRATE Note: The basic warning is "SINKRATE (PAUSE) SINKRATE". However, if the Mode 1 Pullup curve is violated only a single "Sinkrate" may occur prior to the pull up voice.	7
MODE 3 DON'T SINK	DON'T SINK (PAUSE) DON'T SINK	
MODE 5 GLIDESLOPE	GLIDESLOPE	
PWS Windshear Caution	N/A - PWS Voice	
MODE 6 APPROACHING DH	SELECTED CALLOUT	
MODE 6 BANK ANGLE	BANK ANGLE (PAUSE) BANK ANGLE, or BANK ANGLE BANK ANGLE (Honeywell Algorithm at low altitudes)	
MODE 7 WINDSHEAR ALERT	(QUIET) (or CAUTION WINDSHEAR if Caution voice Enabled)	
AUTOPILOT ALERT	AUTOPILOT	6, 8
PITCH ANGLE ALERT	PITCH ATTITUDE PITCH ATTITUDE	12
TAKEOFF FLAP ALERT	FLAPS (PAUSE) FLAPS	6, 9
RAAS RUNWAY ADVISORIES	SELECTED RAAS ADVISORIES	14
RAAS DISTANCE REMAINING CALLOUTS	SELECTED RAAS CALLOUTS	14
TCAS RA	N/A - TCAS Voice (may coincide with Mode 6 voices)	
TCAS TA	N/A - TCAS Voice (may coincide with Mode 6 voices)	

Note 1: These are the only voices that can interrupt.
Note 2: Deleted.
Note 3: Obstacle alerts introduced in P/N 965-1076-0xx-204-204.
Note 4: The preface voices will always be given prior to the warning voice.
Note 5: Applicable to Bank Angle Types 5 and above (typically military applications).
Note 6: Introduced in 965-1076-0xx-208-208.
Note 7: Long Self Test will only issue a single 'Sinkrate".
Note 8: Not applicable to Mark 5 EGPWS.
Note 9: Only applicable to Mode 6 Type 3 (C130).
Note 10: Only applicable to tactical military applications.
Note 11: Only applicable to C141.
Note 12: Introduced in 965-1076-0xx-214-214.
Note 13: Not applicable to Mark 7 EGPWS. Shown for reference only.
Note 14: Introduced in –218-218.

TABLE 5.2.13-5: ALTERNATE AUDIO MENU TYPE 5

ALERT/WARNING CONDITION	ALTERNATE AUDIO MENU #5	NOTES
MODE 7 WINDSHEAR WARNING	(siren) WINDSHEAR WINDSHEAR WINDSHEAR	1
MODE 6 BANK ANGLE	BANK ANGLE	1, 4, 5
MODE 1 PULL UP	(WHOOP) (WHOOP) PULL UP	1
MODE 2 PULL UP PREFACE	TERRAIN TERRAIN	1, 2
MODE 2 PULL UP	(WHOOP) (WHOOP) PULL UP	1
V1 ALERT	V1	1, 7
ENGINE FAIL ALERT	ENGINE FAIL	1, 7
TERRAIN AWARENESS PREFACE	TERRAIN AHEAD PULL UP	1, 2
TERRAIN AWARENESS WARNING	TERRAIN AHEAD PULL UP	1
OBSTACLE AWARENESS PREFACE	OBSTACLE AHEAD PULL UP	1, 2, 3
OBSTACLE AWARENESS WARNING	OBSTACLE AHEAD PULL UP	1, 3
PWS Windshear Warning	N/A - PWS Voice	
MODE 2 TERRAIN	TERRAIN	
MODE 6 MINIMUMS	SELECTED CALLOUT	1
MODE 6 ALTITUDE	ALTITUDE ALTITUDE	5, 9
TERRAIN AWARENESS CAUTION	TERRAIN AHEAD (PAUSE) TERRAIN AHEAD (7 second pause)	
OBSTACLE AWARENESS CAUTION	OBSTACLE AHEAD (PAUSE) OBSTACLE AHEAD (7 second pause)	3
MODE 4 TOO LOW TERRAIN	TOO LOW TERRAIN	
TCF TOO LOW TERRAIN	TOO LOW TERRAIN	
ALTITUDE ALERT	960 HZ TONE	5, 10
AUTOPILOT VOICE	AUTOPILOT- AUTOPILOT	12
MODE 6 ALTITUDE CALLOUTS	SELECTED CALLOUTS	
SPEED BRAKE ALERT	SPEED BRAKE (PAUSE) SPEED BRAKE	7
MODE 4 TOO LOW GEAR	TOO LOW GEAR	
MODE 4 TOO LOW FLAPS	TOO LOW FLAPS	
MODE 1 SINKRATE	SINKRATE Note: The basic warning is "SINKRATE (PAUSE) SINKRATE". However, if the Mode 1 Pullup curve is violated only a single "Sinkrate" may occur prior to the pull up voice.	6
MODE 3 DON'T SINK	DON'T SINK (PAUSE) DON'T SINK	
MODE 5 GLIDESLOPE	GLIDESLOPE	
PWS Windshear Caution	N/A - PWS Voice	
MODE 6 APPROACHING DH	SELECTED CALLOUT	
MODE 6 BANK ANGLE	BANK ANGLE (PAUSE) BANK ANGLE, or BANK ANGLE BANK ANGLE (Honeywell Algorithm at low altitudes)	
MODE 7 WINDSHEAR ALERT	(QUIET) (or CAUTION WINDSHEAR if Caution voice Enabled)	
AUTOPILOT ALERT	AUTOPILOT	5, 7
PITCH ANGLE ALERT	PITCH ATTITUDE PITCH ATTITUDE	11
TAKEOFF FLAP ALERT	FLAPS (PAUSE) FLAPS	5, 8
RAAS RUNWAY ADVISORIES	SELECTED RAAS ADVISORIES	13
RAAS DISTANCE REMAINING CALLOUTS	SELECTED RAAS CALLOUTS	13
TCAS RA	N/A - TCAS Voice (may coincide with Mode 6 voices)	
TCAS TA	N/A - TCAS Voice (may coincide with Mode 6 voices)	

Note 1: These are the only voices that can interrupt.
Note 2: The preface voices will always be given prior to the warning voice.
Note 3: Obstacle alerts introduced in P/N 965-1076-0xx-204-204.
Note 4: Applicable to Bank Angle Types 5 and above (typically military applications).
Note 5: Introduced in 965-1076-0xx-208-208.
Note 6: Long Self Test will only issue a single 'Sinkrate".
Note 7: Not applicable to Mark 5 EGPWS.
Note 8: Only applicable to Mode 6 Type 3 (C130).
Note 9: Only applicable to tactical military applications.
Note 10: Only applicable to C141.
Note 11: Introduced in 965-1076-0xx-214-214.
Note 12: Not applicable to Mark 7 EGPWS. Shown for reference only.
Note 13: Introduced in –218-218.

TABLE 5.2.13-6: ALTERNATE AUDIO MENU TYPE 6

ALERT/WARNING CONDITION	ALTERNATE AUDIO MENU #6	NOTES
MODE 7 WINDSHEAR WARNING	(SIREN) WINDSHEAR WINDSHEAR WINDSHEAR	1
MODE 6 BANK ANGLE	BANK ANGLE	1, 3, 4
MODE 1 PULL UP	PULL UP	1
MODE 2 PULL UP PREFACE	TERRAIN TERRAIN	1
MODE 2 PULL UP	PULL UP	1
V1 ALERT	V1	1, 6
ENGINE FAIL ALERT	ENGINE FAIL	1, 6
TERRAIN AWARENESS PREFACE	TERRAIN TERRAIN	1
TERRAIN AWARENESS WARNING	PULL UP	1
OBSTACLE AWARENESS PREFACE	OBSTACLE OBSTACLE	1, 2
OBSTACLE AWARENESS WARNING	PULL UP	1, 2
PWS Windshear Warning	N/A - PWS Voice	
MODE 2 TERRAIN	TERRAIN	
MODE 6 MINIMUMS	SELECTED CALLOUT	1
MODE 6 ALTITUDE	ALTITUDE ALTITUDE	4, 8
TERRAIN AWARENESS CAUTION	CAUTION TERRAIN (PAUSE) CAUTION TERRAIN (7 sec pause)	
OBSTACLE AWARENESS CAUTION	CAUTION OBSTACLE (PAUSE) CAUTION OBSTACLE (7 sec pause)	2
MODE 4 TOO LOW TERRAIN	TERRAIN (PAUSE) TERRAIN (Single TERRAIN prior to –210)	
TCF TOO LOW TERRAIN	TERRAIN (PAUSE) TERRAIN (Single TERRAIN prior to –210)	
ALTITUDE ALERT	960 HZ TONE	4, 9
AUTOPILOT VOICE	AUTOPILOT- AUTOPILOT	11
MODE 6 ALTITUDE CALLOUTS	SELECTED CALLOUTS	
SPEED BRAKE ALERT	SPEED BRAKE (PAUSE) SPEED BRAKE	6
MODE 4 TOO LOW GEAR	TERRAIN (PAUSE) TERRAIN (Single TERRAIN prior to –210)	
MODE 4 TOO LOW FLAPS	TOO LOW FLAPS	
MODE 1 SINKRATE	SINKRATE Note: The basic warning is "SINKRATE (PAUSE) SINKRATE". However, if the Mode 1 Pullup curve is violated only a single "Sinkrate" may occur prior to the pull up voice.	5
MODE 3 DON'T SINK	SINKRATE (PAUSE) SINKRATE (Single SINKRATE prior to –210)	
MODE 5 GLIDESLOPE	GLIDESLOPE	
PWS Windshear Caution	N/A - PWS Voice	
MODE 6 APPROACHING DH	SELECTED CALLOUT	
MODE 6 BANK ANGLE	BANK ANGLE (PAUSE) BANK ANGLE, or BANK ANGLE BANK ANGLE (Honeywell Algorithm at low altitudes)	
MODE 7 WINDSHEAR ALERT	(QUIET) (or CAUTION WINDSHEAR if Caution voice Enabled)	
AUTOPILOT ALERT	AUTOPILOT	4, 6
PITCH ANGLE ALERT	PITCH ATTITUDE PITCH ATTITUDE	10
TAKEOFF FLAP ALERT	FLAPS (PAUSE) FLAPS	4, 7
RAAS RUNWAY ADVISORIES	SELECTED RAAS ADVISORIES	12
RAAS DISTANCE REMAINING CALLOUTS	SELECTED RAAS CALLOUTS	12
TCAS RA	N/A - TCAS Voice (may coincide with Mode 6 voices)	
TCAS TA	N/A - TCAS Voice (may coincide with Mode 6 voices)	

Note 1: These are the only voices that can interrupt.
Note 2: Obstacle alerts introduced in P/N 965-1076-0xx-204-204.
Note 3: Applicable to Bank Angle Types 5 and above (typically military applications).
Note 4: Introduced in 965-1076-0xx-208-208.
Note 5: Long Self Test will only issue a single 'Sinkrate".
Note 6: Not applicable to Mark 5 EGPWS.
Note 7: Only applicable to Mode 6 Type 3 (C130).
Note 8: Only applicable to tactical military applications.
Note 9: Only applicable to C141.
Note 10: Introduced in 965-1076-0xx-214-214.
Note 11: Not applicable to Mark 7 EGPWS. Shown for reference only.
Note 12: Introduced in –218-218.

TABLE 5.2.13-7: ALTERNATE AUDIO MENU TYPE 7

ALERT/WARNING CONDITION	ALTERNATE AUDIO MENU #7	NOTES
MODE 7 WINDSHEAR WARNING	(SIREN) WINDSHEAR WINDSHEAR WINDSHEAR	1
MODE 6 BANK ANGLE	BANK ANGLE	1, 4, 5
MODE 1 PULL UP	PULL UP	1
MODE 2 PULL UP PREFACE	TERRAIN TERRAIN	1, 3
MODE 2 PULL UP	PULL UP	1
V1 ALERT	V1	1, 7
ENGINE FAIL ALERT	ENGINE FAIL	1, 7
TERRAIN AWARENESS PREFACE	TERRAIN TERRAIN	1, 3
TERRAIN AWARENESS WARNING	PULL UP	1
OBSTACLE AWARENESS PREFACE	OBSTACLE OBSTACLE	1, 2, 3
OBSTACLE AWARENESS WARNING	PULL UP	1, 2
PWS Windshear Warning	N/A - PWS Voice	
MODE 2 TERRAIN	TERRAIN	
MODE 6 MINIMUMS	SELECTED CALLOUT	1
MODE 6 ALTITUDE	ALTITUDE ALTITUDE	5, 9
TERRAIN AWARENESS CAUTION	CAUTION TERRAIN (PAUSE) CAUTION TERRAIN (7 sec pause)	
OBSTACLE AWARENESS CAUTION	CAUTION OBSTACLE (PAUSE) CAUTION OBSTACLE (7 sec pause)	2
MODE 4 TOO LOW TERRAIN	TOO LOW TERRAIN	
TCF TOO LOW TERRAIN	TOO LOW TERRAIN	
ALTITUDE ALERT	960 HZ TONE	5, 10
AUTOPILOT VOICE	AUTOPILOT- AUTOPILOT	12
MODE 6 ALTITUDE CALLOUTS	SELECTED CALLOUTS	
SPEED BRAKE ALERT	SPEED BRAKE (PAUSE) SPEED BRAKE	7
MODE 4 TOO LOW GEAR	TOO LOW GEAR	
MODE 4 TOO LOW FLAPS	TOO LOW NOSE	
MODE 1 SINKRATE	SINKRATE Note: The basic warning is "SINKRATE (PAUSE) SINKRATE". However, if the Mode 1 PULL UP curve is violated only a single "Sinkrate" may occur prior to the PULL UP voice.	6
MODE 3 DON'T SINK	DON'T SINK (PAUSE) DON'T SINK	
MODE 5 GLIDESLOPE	GLIDESLOPE	
PWS Windshear Caution	N/A – PWS Voice	
MODE 6 APPROACHING DH	SELECTED CALLOUT	
MODE 6 BANK ANGLE	BANK ANGLE (PAUSE) BANK ANGLE, or BANK ANGLE BANK ANGLE (Honeywell Algorithm at low altitudes)	
MODE 7 WINDSHEAR ALERT	(QUIET) (or CAUTION WINDSHEAR if Caution voice Enabled)	
AUTOPILOT ALERT	AUTOPILOT	5, 7
PITCH ANGLE ALERT	PITCH ATTITUDE PITCH ATTITUDE	11
TAKEOFF FLAP ALERT	FLAPS (PAUSE) FLAPS	5, 8
RAAS RUNWAY ADVISORIES	SELECTED RAAS ADVISORIES	13
RAAS DISTANCE REMAINING CALLOUTS	SELECTED RAAS CALLOUTS	13
TCAS RA	N/A - TCAS Voice (may coincide with Mode 6 voices)	
TCAS TA	N/A - TCAS Voice (may coincide with Mode 6 voices)	

Note 1: These are the only voices that can interrupt.
Note 2: Obstacle alerts available in P/N 965-1076-0xx-204-204.
Note 3: The preface voices will always be given prior to the warning voice.
Note 4: Applicable to Bank Angle Types 5 and above (typically military applications).
Note 5: Introduced in 965-1076-0xx-208-208.
Note 6: Long Level 1 Self Test will only issue a single 'Sinkrate".
Note 7: Not applicable to Mark 5 EGPWS.
Note 8: Only applicable to Mode 6 Type 3 (C130).
Note 9: Only applicable to tactical military applications.
Note 10: Only applicable to C141.
Note 11: Introduced in 965-1076-0xx-214-214.
Note 12: Not applicable to Mark 7 EGPWS. Shown for reference only.
Note 13: Introduced in –218-218.

TABLE 5.2.13-8: ALTERNATE AUDIO MENU TYPE 8

ALERT/WARNING CONDITION	ALTERNATE AUDIO MENU #8	NOTES
MODE 7 WINDSHEAR WARNING	(SIREN) WINDSHEAR WINDSHEAR WINDSHEAR	1
MODE 6 BANK ANGLE	BANK ANGLE	1, 5, 6
MODE 1 PULL UP	PULL UP	1
MODE 2 PULL UP PREFACE	TERRAIN TERRAIN	1, 3
MODE 2 PULL UP	PULL UP	1
V1 ALERT	V1	1, 8
ENGINE FAIL ALERT	ENGINE FAIL	1, 8
TERRAIN AWARENESS PREFACE	TERRAIN AHEAD PULL UP	1, 3
TERRAIN AWARENESS WARNING	TERRAIN AHEAD PULL UP	1
OBSTACLE AWARENESS PREFACE	OBSTACLE AHEAD PULL UP	1, 2, 3, 4
OBSTACLE AWARENESS WARNING	OBSTACLE AHEAD PULL UP	1, 2, 4
PWS Windshear Warning	N/A - PWS Voice	
MODE 2 TERRAIN	TERRAIN	
MODE 6 MINIMUMS	SELECTED CALLOUT	1
MODE 6 ALTITUDE	ALTITUDE ALTITUDE	6, 10
TERRAIN AWARENESS CAUTION	TERRAIN AHEAD (PAUSE) TERRAIN AHEAD (7 second pause)	
OBSTACLE AWARENESS CAUTION	OBSTACLE AHEAD (PAUSE) OBSTACLE AHEAD (7 second pause)	2, 4
MODE 4 TOO LOW TERRAIN	TOO LOW TERRAIN	
TCF TOO LOW TERRAIN	TOO LOW TERRAIN	
ALTITUDE ALERT	960 HZ TONE	6, 11
AUTOPILOT VOICE	AUTOPILOT- AUTOPILOT	13
MODE 6 ALTITUDE CALLOUTS	SELECTED CALLOUTS	
SPEED BRAKE ALERT	SPEED BRAKE (PAUSE) SPEED BRAKE	8
MODE 4 TOO LOW GEAR	TOO LOW GEAR	
MODE 4 TOO LOW FLAPS	TOO LOW NOSE	
MODE 1 SINKRATE	SINKRATE Note: The basic warning is "SINKRATE (PAUSE) SINKRATE". However, if the Mode 1 Pullup curve is violated only a single "Sinkrate" may occur prior to the pull up voice.	7
MODE 3 DON'T SINK	DON'T SINK (PAUSE) DON'T SINK	
MODE 5 GLIDESLOPE	GLIDESLOPE	
PWS Windshear Caution	N/A - PWS Voice	
MODE 6 APPROACHING DH	SELECTED CALLOUT	
MODE 6 BANK ANGLE	BANK ANGLE (PAUSE) BANK ANGLE, or BANK ANGLE BANK ANGLE (Honeywell Algorithm at low altitudes)	
MODE 7 WINDSHEAR ALERT	(QUIET) (or CAUTION WINDSHEAR if Caution voice Enabled)	
AUTOPILOT ALERT	AUTOPILOT	6, 8
PITCH ANGLE ALERT	PITCH ATTITUDE PITCH ATTITUDE	12
TAKEOFF FLAP ALERT	FLAPS (PAUSE) FLAPS	6, 9
RAAS RUNWAY ADVISORIES	SELECTED RAAS ADVISORIES	14
RAAS DISTANCE REMAINING CALLOUTS	SELECTED RAAS CALLOUTS	14
TCAS RA	N/A - TCAS Voice (may coincide with Mode 6 voices)	
TCAS TA	N/A - TCAS Voice (may coincide with Mode 6 voices)	

Note 1: These are the only voices that can interrupt.
Note 2: Obstacle alerts introduced in P/N 965-1076-0xx-204-204.
Note 3: The preface voices will always be given prior to the warning voice.
Note 4: Changed callout from "TERRAIN" to "OBSTACLE" in P/N 965-1076-0xx-204-204.
Note 5: Applicable to Bank Angle Types 5 and above (typically military applications).
Note 6: Introduced in 965-1076-0xx-208-208.
Note 7: Long Level 1 Self Test will only issue a single 'Sinkrate".
Note 8: Not applicable to Mark 5 EGPWS.
Note 9: Only applicable to Mode 6 Type 3 (C130).
Note 10: Only applicable to tactical military applications.
Note 11: Only applicable to C141.
Note 12: Introduced in 965-1076-0xx-214-214.
Note 13: Not applicable to Mark 7 EGPWS. Shown for reference only.
Note 14: Introduced in –218-218.

5.2.14. Category 14, Input/Output Discrete Function Mapping (Ppin 4)

Document Revision History, Section 5.2.14

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/07/97 - A Loos	Table 5.2.14-0 Table 5.2.14-1	Remove momentary audio suppress from J1B-16, Change J1B-27 to Barometric Alt Rate #1, Change polarity/configuration on J2-E13 from “enable” to “selected”	202	202
11/12/97 - G Ostrom	Table 5.2.14-0 Table 5.2.14-1	Replaced Automatic Backcourse Discrete and Terrain Alert Discrete with Terrain Displayable #1, #2.	202	202
11/17/97 - A Loos	Table 5.2.14-0, -1	Remove Validity, ILS Select, DH, and Flap Position discrete inputs, they are now defined in other categories along with the sensor. Clarified Lamp Format and Flashing Lamp selection.	202	202
11/18/97 - G Ostrom	Table 5.2.14--1	Updated Flashing Lamp Capable for Windshear Caution Discrete from No to Yes.	202	202
11/20/97 - A Loos	All	Add effectivity to table 5.2.14, move “WXR On Discrete” and “Display Select Discrete “from tables 5.2.14-0, -1. To Category 7	202	202
03/18/98 - G Ostrom	Table 5.2.14-0, -1	SCR 2537: Added Obstacle Awareness Caution and Warning conditions to Pin Function of tables 5.2.14-0, -1.	204	204
07/01/98 - MJC	Added tables 5.2.14-2,3,4,5	SCR 2670: Added tables 2 thru 5 to support PWS Inhibit output.	206	206
07/8/98 – P. Blankas	Added table 5.3.1.4-6	SCR 2899, 2900, 2901: Added table to support PLI installations	206	206
07/27/98 – J. Kistler	Added table 5.3.1.4-7	SCR 3001: Added table to support lamp format 1 with all lamps flashing	206	206
07/30/98 - MJC	Revised tables 5.2.14-0,1,7	SCR 2670: Clarified use of Audio On discrete (not TCAS Inhibit).	206	206
07/30/98 – J. Kistler	Revised Table 5.2.14-7	SCR 3001: Revised note called out for Obstacle Awareness Warning from 2 to 13	206	206
09/09/98 - MJC	Revised tables 5.2.14-0,2,4,6,7	Changed all occurrences of “Glideslope Alert Discrete” to “GPWC Alert Discrete” to be consistent with EM5 nomenclature.	-	-
25/NOV/98 - NFM	Revised table 5.2.14 Added table 5.2.14-8	SCR 3251: Added table to support C-141 discrete I/O.	-208	-208
06/JAN/99 - MJC	Table 5.2.14	Reserved ID 9 for future use.	-	-
02-MAR-99 – L. Matter	Table 5.2.14	Documentation change: ID types 4 & 5, changed PWS Inhibit to PWS & TCAS Inhibit.	-	-
17-MAR-99 – A Loos	Table 5.2.14-8	Add continuation notes to Table	-	-
06-APR-99 - MJC	Table 5.2.14	SCR 3752: Added ID 9. Identical to ID 1 except deleted Terrain Displayable #2 and replaced Terrain Displayable #1 with WXR Control Discrete.	-210	-210
11-May-99 – D. Sawich	Table 5.2.14-0	SCR 3878: Added discrete input J2-C15, Gnd Disc 11, GPWS Inhibit Discrete.		-210
17-MAY-99 B. Osada	All	SCR 3891: Tracing fix only. Added "Traceability" next to hidden requirement. Also added new trace to table 9.		
01-SEP-99 – Gary Boyd	Table 5.2.14-4/5	SCR 4201: Changed J2-F02 to Terrain/Obstacle Pop Up Discrete. Used by EFIS 50 for auto ranging.		-210

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
08-SEP-99 – M. Tam	Audit Trail Fix	SCR 4201: fixed previous audit trail to indicate tables 4 & 5 instead of 5 & 6.		-210
27-Sep-99 - A Loos	ALL	SCR 4334: Correct format errors. Revised note number to be “end notes”. Add “NOTE 1” to Table 5.2.14.	-	-
15-Feb-00 A Loos	-	Correct spelling errors	-	-
02-JUN-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
17-AUG-00 – L. Caldeira	5.2.14	SCR 5241: Tracing only – deleted 5.2.14 tracing.	-	-
15-FEB-01 – Susie Wright	5.2.14	SCR 5809: Clarified Audio On & TCAS Inhibit discretes.	213	213
09-AUG-01 – M. Calhoun	Tables 5.2.14 and 5.2.14-9	SCR 6298: Added 'PWS Inhibit' output to ID #9.	-	214
17-JUN-02 – Gary Boyd	Table 5.2.14 ID 8 and 5.2.14-8	SCR 6608: Changed C141 to “Military” and added with Tactical discrete.	-	-
03-SEP-03 – Gill	5.2.14 (rev)	SCR 7637: Added front matter defining RAAS Enable / Inhibit discrete function.	218	218
09-MAR-06 – M. Calhoun	All Tables	SCR 8201: Updated all discrete I/O tables to add cross-references to other ICD sections that describe the functionality of the discretes.	-	-

The following table provides identification of the Input/Output Discrete Type. Each entry in the Input/Output Discrete Type column has a corresponding table that provides detailed information on the configuration. For example, the details for Input/Output Discrete Type #0 are found in Table 5.2.14-0. Additional information on processing is provided in Section 6.4 for discrete inputs and in Section 7.3 for discrete outputs.

Table 5.2.14: Input/Output Discrete Functional Mapping (Ppin 4)

ID	PP 4 State (J2-B7)	Input/Output Discrete Type (Table 5.2.14-xx)	Description	Effectivity	
				App.	Cfg.
Standard Aircraft Support					
0	1	0 **(Note 1)**	Lamp Format 1 **(Note 2)**	202	202
1	2	1	Lamp Format 2 **(Note 2)**	202	202
Aircraft Support for Predictive Windshear (PWS)					
2	3	2	Lamp Format 1 with PWS Inhibit, without TCAS Inhibit	206	206
3	4	3	Lamp Format 2 with PWS Inhibit, without TCAS Inhibit	206	206
4	5	4	Lamp Format 1 with PWS Inhibit supports only single display **(Note 3)**	206	206
5	6	5	Lamp Format 2 with PWS Inhibit supports only single display **(Note 3)**	206	206
Aircraft Support for Pitch Limit Indicator (PLI)					
6	7	6	Lamp Format 1 with PLI Select Outputs, without TCAS Inhibit	206	206
All Lamps Flashing Support					
7	8	7	Lamp Format 1 with all Lamps Flashing **(Note 2)**	206	206
Military Mode Support					
8	9	8	Lamp Format 2, with Tactical discrete **(Note 2)**	208	208
Weather Radar Control Discrete Support					
9	10	9	Lamp Format 2 with WXR Control Discrete and PWS Inhibit **(Note 2)**	210	210

Note 1: Cannot be used with a Category 1 Aircraft Type/AOA/Flaps configuration that uses J2-C15 for the Flap Position #2 Ground Discrete (reference Section 5.2.1).
Note 2: Includes an Audio On discrete, which can be used to inhibit TCAS any time the EGPWS audio is on.
Note 3: Includes a TCAS Inhibit discrete, which can be used to inhibit TCAS when any EGPWS audio alert is being annunciated except Mode 6 altitude callout advisory messages.

RAAS Enable / Inhibit Discretes

The Runway Awareness Advisory System (RAAS) can optionally use a discrete that is configured either as an Enable or a RAAS Advisory Inhibit. The table below lists the discretes by EGPWS port and connector pin number. Each discrete can be configured such that the active state is reversed (i.e. a ground seeking discrete can be configured so ground = Active or open = active).

The RAAS Enable logic is opposite of the defined discrete active state. For example, if the Discrete Active State is defined as Open = Active, then RAAS is enabled when that discrete is a Ground.

The Inhibit logic is the same as the defined discrete active state. For example, if the Discrete Active State is defined as Open = Active, then RAAS is Inhibited when that discrete is Open.

RAAS ID [RWY_Disc] *	PORT / CONNECTOR PIN	DISCRETE ACTIVE STATE	REFERENCE	DISCRETE LOGIC	
				Defined as ENABLE	Defined as INHIBIT
41.	Gnd Disc 31 J1B-25 **	Open = Active	6.4.43 & 6.4.44	Ground = Enabled	OPEN = Inhibit
42.	Gnd Disc 31 J1B-25**	Ground = Active	6.4.43 & 6.4.44	OPEN = Enable	Ground = Inhibit
43.	Gnd Disc 11 J2-C15***	Open = Active	6.4.43 & 6.4.44	Ground = Enabled	OPEN = Inhibit
44.	Gnd Disc 11 J2-C15***	Ground = Active	6.4.43 & 6.4.44	OPEN = Enable	Ground = Inhibit

* Reference SRD 6.14 (for internal Honeywell use only)

** J1B-25 can be used on installations using any Discrete I/O type except Type 6 (Non-PLI aircraft).

*** J2-C15 can only be used on installations using Discrete I/O Type 6 (PLI aircraft).

Table 5.2.14-0: Input/Output Discrete Type 0

CONN PIN #	CHANNEL DESIGNATION REFERENCE	PIN TYPE	PIN FUNCTION	REFERENCE	Polarity/Configuration
J2-F04	Gnd Disc 02	Input	Altitude Callouts Enable Discrete	6.4.17	Gnd = Voice Enabled Open = Voice Disabled
J1B-08	28v Disc 19	Input	Audio Inhibit Discrete (+28V)	6.4.19	+28V = Inhibit 0V = Not Inhibit
J1B-16	Gnd Disc 32	Input	Audio Inhibit Discrete (Gnd)	6.4.18	Gnd = Inhibit Open = Not Inhibit
J1B-34	Gnd Disc 30	Input	Glideslope Cancel Discrete (Gnd)	6.4.14	Gnd = Cancel Open = Normal
J1B-02	28v Disc 21	Input	Glideslope Inhibit Discrete (+28V)	6.4.13	+28V = Inhibit 0V = Not Inhibit
J1A-05	Gnd Disc 27	Input	Glideslope Inhibit Discrete (Gnd)	6.4.12	Gnd = Inhibit Open = Not Inhibit
J1A-24	28v Disc 14	Input	Landing Flaps Discrete (+28V)	6.4.5	+28V = Not Landing Flap 0V = Landing Flap
J1B-24	Gnd Disc 14	Input	Landing Flaps Discrete (Gnd)	6.4.4	Gnd = Not Landing Flap Open = Landing Flap
J1B-07	28v Disc 20	Input	Landing Gear Discrete (+28V)	6.4.3	+28V = Gear Down 0V = Gear Up
J1B-23	Gnd Disc 16	Input	Landing Gear Discrete (Gnd)	6.4.2	Gnd = Gear Down Open = Gear Up
J1A-01	Gnd Disc 12	Input	Mode 6 Low Volume Discrete (Gnd)	6.4.16	Gnd = Low Volume Open = Normal
J1B-22	Gnd Disc 08	Input	Self Test Discrete (Gnd)	6.4.7	Gnd = Self Test Open = Normal
J2-C04	Gnd Disc 01	Input	Simulator Reposition Discrete	6.4.23	Gnd = Reposition Open = Normal
J1A-02	Gnd Disc 29	Input	Steep Approach Discrete #1 (Gnd)	6.4.8.1	Gnd = Enable Open = Disable
J2-E13	Gnd Disc 09	Input	Steep Approach Discrete #2 (Gnd)	6.4.8.2	Gnd = Selected Open = Not Selected
J2-G04	Gnd Disc 03	Input	Terrain Awareness & TCF Inhibit (Gnd)	6.4.22	Gnd = Inhibit Open = Not Inhibit
J2-C15	Gnd Disc 11	Input	GPWS Inhibit Discrete[4]	6.4.41	Gnd = Inhibit Open = Not Inhibit
J1B-10	Dout 08	Output	Terrain Displayable #2 (DO #8)	7.3.7	
J1A-21	Dout 06	Output	Glideslope Manually Canceled Discrete (DO #6)	7.3.13	
J1B-12	Mon 3	Output	GPWS INOP discrete (monitor)	7.3.5	
J2-B13	Dout 04	Output	Audio On discrete (DO #4)	7.3.3	
J1B-09	Dout 07	Output	Terrain Displayable #1 (DO #7)	7.3.7	
J2-F01	Mon 1	Output	Terrain Display INOP Discrete (Monitor) Terrain Not Available	7.3.5	
J2-A03	Mon 2	Output	Windshear INOP Discrete (Monitor)	7.3.5	
J2-F02	Dout 03	Output	Wx/EGPWC Display Select Discrete #2 (DO #3)	7.3.6	
J1A-13	Dout 05	Output	Wx/EGPWC Display Select Discrete #1 (DO #5)	7.3.6	
WARNING and ALERT LAMP CONFIGURATION					
Lamp Format: Type 1					
CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**	**REFERENCE**	**Flashing Lamp Capable[1]**
J1B-33	Dout 10	Output	GPWC Alert Discrete (Glideslope only)	7.3.1	No
J1B-11	Dout 09	Output	GPWC Warning Discrete Terrain Awareness Caution Terrain Awareness Warning Obstacle Awareness Caution[2] Obstacle Awareness Warning[2]	7.3.1 7.3.4.1 7.3.4.2 7.3.4.1 7.3.4.2	Yes Yes Yes Yes Yes
J2-A01	Dout 1	Output	Windshear Caution Discrete (DO #1)	7.3.2	No
J2-A02	Dout 2	Output	Windshear Warning Discrete (DO #2)	7.3.2	No

[1] Lamp output will flash only if Flashing Lamps are selected in Category 4, see section 5.2.4.

[2] Obstacle alerts introduced in P/N 965-1076-XXX-204-204.

[4] GPWS Inhibit Discrete added in P/N 965-1076-XXX-210-210.

Table 5.2.14-1: Input/Output Discrete Type 1

CONN PIN #	CHANNEL DESIGNATION REFERENCE	PIN TYPE	PIN FUNCTION	REFERENCE	Polarity
J2-F04	Gnd Disc 02	Input	Altitude Callouts Enable Discrete	6.4.17	Gnd = Voice Enabled Open = Voice Disabled
J1B-08	28v Disc 19	Input	Audio Inhibit Discrete (+28V)	6.4.19	+28V = Inhibit 0V = Not Inhibit
J1B-16	Gnd Disc 32	Input	Audio Inhibit Discrete (Gnd)	6.4.18	Gnd = Inhibit Open = Not Inhibit
J1B-34	Gnd Disc 30	Input	Glideslope Cancel Discrete (Gnd)	6.4.14	Gnd = Cancel Open = Normal
J1B-02	28v Disc 21	Input	Glideslope Inhibit Discrete (+28V)	6.4.13	+28V = Inhibit 0V = Not Inhibit
J1A-05	Gnd Disc 27	Input	Glideslope Inhibit Discrete (Gnd)	6.4.12	Gnd = Inhibit Open = Not Inhibit
J1A-24	28v Disc 14	Input	Landing Flaps Discrete (+28V)	6.4.5	+28V = Not Landing Flap 0V = Landing Flap
J1B-24	Gnd Disc 14	Input	Landing Flaps Discrete (Gnd)	6.4.4	Gnd = Not Landing Flap Open = Landing Flap
J1B-07	28v Disc 20	Input	Landing Gear Discrete (+28V)	6.4.3	+28V = Gear Down 0V = Gear Up
J1B-23	Gnd Disc 16	Input	Landing Gear Discrete (Gnd)	6.4.2	Gnd = Gear Down Open = Gear Up
J1A-01	Gnd Disc 12	Input	Mode 6 Low Volume Discrete (Gnd)	6.4.16	Gnd = Low Volume Open = Normal
J1B-22	Gnd Disc 08	Input	Self Test Discrete (Gnd)	6.4.7	Gnd = Self Test Open = Normal
J2-C04	Gnd Disc 01	Input	Simulator Reposition Discrete	6.4.23	Gnd = Reposition Open = Normal
J1A-02	Gnd Disc 29	Input	Steep Approach Discrete #1 (Gnd)	6.4.8.1	Gnd = Enable Open = Disable
J2-E13	Gnd Disc 09	Input	Steep Approach Discrete #2 (Gnd)	6.4.8.2	Gnd = Selected Open = Not Selected
J2-G04	Gnd Disc 03	Input	Terrain Awareness & TCF Inhibit (Gnd)	6.4.22	Gnd = Inhibit Open = Not Inhibit
J1B-10	Dout 08	Output	Terrain Displayable #2 (DO #8)	7.3.7	
J1A-21	Dout 06	Output	Glideslope Manually Canceled Discrete (DO #6)	7.3.13	
J1B-12	Mon 3	Output	GPWS INOP discrete (monitor)	7.3.5	
J2-B13	Dout 04	Output	Audio On discrete (DO #4)	7.3.3	
J1B-09	Dout 07	Output	Terrain Displayable #1 (DO #7)	7.3.7	
J2-F01	Mon 1	Output	Terrain Display INOP Discrete (Monitor) Terrain Not Available	7.3.5	
J2-A03	Mon 2	Output	Windshear INOP Discrete (Monitor)	7.3.5	
J2-F02	Dout 03	Output	Wx/EGPWC Display Select Discrete #2 (DO #3)	7.3.6	
J1A-13	Dout 05	Output	Wx/EGPWC Display Select Discrete #1 (DO #5)	7.3.6	
WARNING and ALERT LAMP CONFIGURATION					
Lamp Format: Type 2					
CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**	**REFERENCE**	**Flashing Lamp Capable[1]**
J1B-33	Dout 10	Output	GPWC Alert Discrete Terrain Awareness Caution Obstacle Awareness Caution[2]	7.3.1 7.3.4.1 7.3.4.1	No No No
J1B-11	Dout 09	Output	GPWC Warning Discrete Terrain Awareness Warning Obstacle Awareness Warning[2]	7.3.1 7.3.4.2 7.3.4.2	Yes Yes Yes
J2-A01	Dout 1	Output	Windshear Caution Discrete (DO #1)	7.3.2	Yes
J2-A02	Dout 2	Output	Windshear Warning Discrete (DO #2)	7.3.2	Yes

1 Lamp output will flash only if Flashing Lamps are selected in Category 4, see section 5.2.4.

2 Obstacle alerts introduced in P/N 965-1076-XXX-204-204.

Table 5.2.14-2: Input/Output Discrete Type 2

CONN PIN #	CHANNEL DESIGNATION REFERENCE	PIN TYPE	PIN FUNCTION	REFERENCE	Polarity/Configuration
J2-F04	Gnd Disc 02	Input	Altitude Callouts Enable Discrete	6.4.17	Gnd = Voice Enabled Open = Voice Disabled
J1B-08	28v Disc 19	Input	Audio Inhibit Discrete (+28V)	6.4.19	+28V = Inhibit 0V = Not Inhibit
J1B-16	Gnd Disc 32	Input	Audio Inhibit Discrete (Gnd)	6.4.18	Gnd = Inhibit Open = Not Inhibit
J1B-34	Gnd Disc 30	Input	Glideslope Cancel Discrete (Gnd)	6.4.14	Gnd = Cancel Open = Normal
J1B-02	28v Disc 21	Input	Glideslope Inhibit Discrete (+28V)	6.4.13	+28V = Inhibit 0V = Not Inhibit
J1A-05	Gnd Disc 27	Input	Glideslope Inhibit Discrete (Gnd)	6.4.12	Gnd = Inhibit Open = Not Inhibit
J1A-24	28v Disc 14	Input	Landing Flaps Discrete (+28V)	6.4.5	+28V = Not Landing Flap 0V = Landing Flap
J1B-24	Gnd Disc 14	Input	Landing Flaps Discrete (Gnd)	6.4.4	Gnd = Not Landing Flap Open = Landing Flap
J1B-07	28v Disc 20	Input	Landing Gear Discrete (+28V)	6.4.3	+28V = Gear Down 0V = Gear Up
J1B-23	Gnd Disc 16	Input	Landing Gear Discrete (Gnd)	6.4.2	Gnd = Gear Down Open = Gear Up
J1A-01	Gnd Disc 12	Input	Mode 6 Low Volume Discrete (Gnd)	6.4.16	Gnd = Low Volume Open = Normal
J1B-22	Gnd Disc 08	Input	Self Test Discrete (Gnd)	6.4.7	Gnd = Self Test Open = Normal
J2-C04	Gnd Disc 01	Input	Simulator Reposition Discrete	6.4.23	Gnd = Reposition Open = Normal
J1A-02	Gnd Disc 29	Input	Steep Approach Discrete #1 (Gnd)	6.4.8.1	Gnd = Enable Open = Disable
J2-E13	Gnd Disc 09	Input	Steep Approach Discrete #2 (Gnd)	6.4.8.2	Gnd = Selected Open = Not Selected
J2-G04	Gnd Disc 03	Input	Terrain Awareness & TCF Inhibit (Gnd)	6.4.22	Gnd = Inhibit Open = Not Inhibit
J1B-10	Dout 08	Output	Terrain Displayable #2 (DO #8)	7.3.7	
J1A-21	Dout 06	Output	Glideslope Manually Canceled Discrete (DO #6)	7.3.13	
J1B-12	Mon 3	Output	GPWS INOP discrete (monitor)	7.3.5	
J2-B13	Dout 04	Output	PWS Inhibit discrete (DO #4)	7.3.10	
J1B-09	Dout 07	Output	Terrain Displayable #1 (DO #7)	7.3.7	
J2-F01	Mon 1	Output	Terrain Display INOP Discrete (Monitor) Terrain Not Available	7.3.5	
J2-A03	Mon 2	Output	Windshear INOP Discrete (Monitor)	7.3.5	
J2-F02	Dout 03	Output	Wx/EGPWC Display Select Discrete #2 (DO #3)	7.3.6	
J1A-13	Dout 05	Output	Wx/EGPWC Display Select Discrete #1 (DO #5)	7.3.6	
WARNING and ALERT LAMP CONFIGURATION					
Lamp Format: Type 1					
CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**	**REFERENCE**	**Flashing Lamp Capable[1]**
J1B-33	Dout 10	Output	GPWC Alert Discrete (Glideslope only)	7.3.1	No
J1B-11	Dout 09	Output	GPWC Warning Discrete Terrain Awareness Caution Terrain Awareness Warning Obstacle Awareness Caution[2] Obstacle Awareness Warning[2]	7.3.1 7.3.4.1 7.3.4.2 7.3.4.1 7.3.4.2	Yes Yes Yes Yes Yes
J2-A01	Dout 1	Output	Windshear Caution Discrete (DO #1)	7.3.2	No
J2-A02	Dout 2	Output	Windshear Warning Discrete (DO #2)	7.3.2	No

[1] Lamp output will flash only if Flashing Lamps are selected in Category 4, see section 5.2.4.

[2] Obstacle alerts introduced in P/N 965-1076-XXX-204-204.

Table 5.2.14-3: Input/Output Discrete Type 3

CONN PIN #	CHANNEL DESIGNATION REFERENCE	PIN TYPE	PIN FUNCTION	REFERENCE	Polarity
J2-F04	Gnd Disc 02	Input	Altitude Callouts Enable Discrete	6.4.17	Gnd = Voice Enabled Open = Voice Disabled
J1B-08	28v Disc 19	Input	Audio Inhibit Discrete (+28V)	6.4.19	+28V = Inhibit 0V = Not Inhibit
J1B-16	Gnd Disc 32	Input	Audio Inhibit Discrete (Gnd)	6.4.18	Gnd = Inhibit Open = Not Inhibit
J1B-34	Gnd Disc 30	Input	Glideslope Cancel Discrete (Gnd)	6.4.14	Gnd = Cancel Open = Normal
J1B-02	28v Disc 21	Input	Glideslope Inhibit Discrete (+28V)	6.4.13	+28V = Inhibit 0V = Not Inhibit
J1A-05	Gnd Disc 27	Input	Glideslope Inhibit Discrete (Gnd)	6.4.12	Gnd = Inhibit Open = Not Inhibit
J1A-24	28v Disc 14	Input	Landing Flaps Discrete (+28V)	6.4.5	+28V = Not Landing Flap 0V = Landing Flap
J1B-24	Gnd Disc 14	Input	Landing Flaps Discrete (Gnd)	6.4.4	Gnd = Not Landing Flap Open = Landing Flap
J1B-07	28v Disc 20	Input	Landing Gear Discrete (+28V)	6.4.3	+28V = Gear Down 0V = Gear Up
J1B-23	Gnd Disc 16	Input	Landing Gear Discrete (Gnd)	6.4.2	Gnd = Gear Down Open = Gear Up
J1A-01	Gnd Disc 12	Input	Mode 6 Low Volume Discrete (Gnd)	6.4.16	Gnd = Low Volume Open = Normal
J1B-22	Gnd Disc 08	Input	Self Test Discrete (Gnd)	6.4.7	Gnd = Self Test Open = Normal
J2-C04	Gnd Disc 01	Input	Simulator Reposition Discrete	6.4.23	Gnd = Reposition Open = Normal
J1A-02	Gnd Disc 29	Input	Steep Approach Discrete #1 (Gnd)	6.4.8.1	Gnd = Enable Open = Disable
J2-E13	Gnd Disc 09	Input	Steep Approach Discrete #2 (Gnd)	6.4.8.2	Gnd = Selected Open = Not Selected
J2-G04	Gnd Disc 03	Input	Terrain Awareness & TCF Inhibit (Gnd)	6.4.22	Gnd = Inhibit Open = Not Inhibit
J1B-10	Dout 08	Output	Terrain Displayable #2 (DO #8)	7.3.7	
J1A-21	Dout 06	Output	Glideslope Manually Canceled Discrete (DO #6)	7.3.13	
J1B-12	Mon 3	Output	GPWS INOP discrete (monitor)	7.3.5	
J2-B13	Dout 04	Output	PWS Inhibit discrete (DO #4)	7.3.10	
J1B-09	Dout 07	Output	Terrain Displayable #1 (DO #7)	7.3.7	
J2-F01	Mon 1	Output	Terrain Display INOP Discrete (Monitor) Terrain Not Available	7.3.5	
J2-A03	Mon 2	Output	Windshear INOP Discrete (Monitor)	7.3.5	
J2-F02	Dout 03	Output	Wx/EGPWC Display Select Discrete #2 (DO #3)	7.3.6	
J1A-13	Dout 05	Output	Wx/EGPWC Display Select Discrete #1 (DO #5)	7.3.6	
WARNING and ALERT LAMP CONFIGURATION					
Lamp Format: Type 2					
CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**	**REFERENCE**	**Flashing Lamp Capable[1]**
J1B-33	Dout 10	Output	GPWC Alert Discrete Terrain Awareness Caution Obstacle Awareness Caution[2]	7.3.1 7.3.4.1 7.3.4.1	No No No
J1B-11	Dout 09	Output	GPWC Warning Discrete Terrain Awareness Warning Obstacle Awareness Warning[2]	7.3.1 7.3.4.2 7.3.4.2	Yes Yes Yes
J2-A01	Dout 1	Output	Windshear Caution Discrete (DO #1)	7.3.2	Yes
J2-A02	Dout 2	Output	Windshear Warning Discrete (DO #2)	7.3.2	Yes

1 Lamp output will flash only if Flashing Lamps are selected in Category 4, see section 5.2.4.

2 Obstacle alerts introduced in P/N 965-1076-XXX-204-204.

Table 5.2.14-4: Input/Output Discrete Type 4

CONN PIN #	CHANNEL DESIGNATION REFERENCE	PIN TYPE	PIN FUNCTION	REFERENCE	Polarity/Configuration
J2-F04	Gnd Disc 02	Input	Altitude Callouts Enable Discrete	6.4.17	Gnd = Voice Enabled Open = Voice Disabled
J1B-08	28v Disc 19	Input	Audio Inhibit Discrete (+28V)	6.4.19	+28V = Inhibit 0V = Not Inhibit
J1B-16	Gnd Disc 32	Input	Audio Inhibit Discrete (Gnd)	6.4.18	Gnd = Inhibit Open = Not Inhibit
J1B-34	Gnd Disc 30	Input	Glideslope Cancel Discrete (Gnd)	6.4.14	Gnd = Cancel Open = Normal
J1B-02	28v Disc 21	Input	Glideslope Inhibit Discrete (+28V)	6.4.13	+28V = Inhibit 0V = Not Inhibit
J1A-05	Gnd Disc 27	Input	Glideslope Inhibit Discrete (Gnd)	6.4.12	Gnd = Inhibit Open = Not Inhibit
J1A-24	28v Disc 14	Input	Landing Flaps Discrete (+28V)	6.4.5	+28V = Not Landing Flap 0V = Landing Flap
J1B-24	Gnd Disc 14	Input	Landing Flaps Discrete (Gnd)	6.4.4	Gnd = Not Landing Flap Open = Landing Flap
J1B-07	28v Disc 20	Input	Landing Gear Discrete (+28V)	6.4.3	+28V = Gear Down 0V = Gear Up
J1B-23	Gnd Disc 16	Input	Landing Gear Discrete (Gnd)	6.4.2	Gnd = Gear Down Open = Gear Up
J1A-01	Gnd Disc 12	Input	Mode 6 Low Volume Discrete (Gnd)	6.4.16	Gnd = Low Volume Open = Normal
J1B-22	Gnd Disc 08	Input	Self Test Discrete (Gnd)	6.4.7	Gnd = Self Test Open = Normal
J2-C04	Gnd Disc 01	Input	Simulator Reposition Discrete	6.4.23	Gnd = Reposition Open = Normal
J1A-02	Gnd Disc 29	Input	Steep Approach Discrete #1 (Gnd)	6.4.8.1	Gnd = Enable Open = Disable
J2-E13	Gnd Disc 09	Input	Steep Approach Discrete #2 (Gnd)	6.4.8.2	Gnd = Selected Open = Not Selected
J2-G04	Gnd Disc 03	Input	Terrain Awareness & TCF Inhibit (Gnd)	6.4.22	Gnd = Inhibit Open = Not Inhibit
J1B-10	Dout 08	Output	PWS Inhibit (DO #8)	7.3.10	
J1A-21	Dout 06	Output	Glideslope Manually Canceled Discrete (DO #6)	7.3.13	
J1B-12	Mon 3	Output	GPWS INOP discrete (monitor)	7.3.5	
J2-B13	Dout 04	Output	TCAS Inhibit discrete (DO #4)	7.3.11	
J1B-09	Dout 07	Output	Terrain Displayable #1 (DO #7)	7.3.7	
J2-F01	Mon 1	Output	Terrain Display INOP Discrete (Monitor) Terrain Not Available	7.3.5	
J2-A03	Mon 2	Output	Windshear INOP Discrete (Monitor)	7.3.5	
J2-F02	Dout 03	Output	Terrain/Obstacle Pop Up Discrete (added –210)	7.3.17	
J1A-13	Dout 05	Output	Wx/EGPWC Display Select Discrete #1 (DO #5)	7.3.6	
WARNING and ALERT LAMP CONFIGURATION					
Lamp Format: Type 1					
CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**	**REFERENCE**	**Flashing Lamp Capable[1]**
J1B-33	Dout 10	Output	GPWC Alert Discrete (Glideslope only)	7.3.1	No
J1B-11	Dout 09	Output	GPWC Warning Discrete Terrain Awareness Caution Terrain Awareness Warning Obstacle Awareness Caution[2] Obstacle Awareness Warning[2]	7.3.1 7.3.4.1 7.3.4.2 7.3.4.1 7.3.4.2	Yes Yes Yes Yes Yes
J2-A01	Dout 1	Output	Windshear Caution Discrete (DO #1)	7.3.2	No
J2-A02	Dout 2	Output	Windshear Warning Discrete (DO #2)	7.3.2	No

1 Lamp output will flash only if Flashing Lamps are selected in Category 4, see section 5.2.4.

2 Obstacle alerts introduced in P/N 965-1076-XXX-204-204.

Table 5.2.14-5: Input/Output Discrete Type 5

CONN PIN #	CHANNEL DESIGNATION REFERENCE	PIN TYPE	PIN FUNCTION	REFERENCE	Polarity
J2-F04	Gnd Disc 02	Input	Altitude Callouts Enable Discrete	6.4.17	Gnd = Voice Enabled Open = Voice Disabled
J1B-08	28v Disc 19	Input	Audio Inhibit Discrete (+28V)	6.4.19	+28V = Inhibit 0V = Not Inhibit
J1B-16	Gnd Disc 32	Input	Audio Inhibit Discrete (Gnd)	6.4.18	Gnd = Inhibit Open = Not Inhibit
J1B-34	Gnd Disc 30	Input	Glideslope Cancel Discrete (Gnd)	6.4.14	Gnd = Cancel Open = Normal
J1B-02	28v Disc 21	Input	Glideslope Inhibit Discrete (+28V)	6.4.13	+28V = Inhibit 0V = Not Inhibit
J1A-05	Gnd Disc 27	Input	Glideslope Inhibit Discrete (Gnd)	6.4.12	Gnd = Inhibit Open = Not Inhibit
J1A-24	28v Disc 14	Input	Landing Flaps Discrete (+28V)	6.4.5	+28V = Not Landing Flap 0V = Landing Flap
J1B-24	Gnd Disc 14	Input	Landing Flaps Discrete (Gnd)	6.4.4	Gnd = Not Landing Flap Open = Landing Flap
J1B-07	28v Disc 20	Input	Landing Gear Discrete (+28V)	6.4.3	+28V = Gear Down 0V = Gear Up
J1B-23	Gnd Disc 16	Input	Landing Gear Discrete (Gnd)	6.4.2	Gnd = Gear Down Open = Gear Up
J1A-01	Gnd Disc 12	Input	Mode 6 Low Volume Discrete (Gnd)	6.4.16	Gnd = Low Volume Open = Normal
J1B-22	Gnd Disc 08	Input	Self Test Discrete (Gnd)	6.4.7	Gnd = Self Test Open = Normal
J2-C04	Gnd Disc 01	Input	Simulator Reposition Discrete	6.4.23	Gnd = Reposition Open = Normal
J1A-02	Gnd Disc 29	Input	Steep Approach Discrete #1 (Gnd)	6.4.8.1	Gnd = Enable Open = Disable
J2-E13	Gnd Disc 09	Input	Steep Approach Discrete #2 (Gnd)	6.4.8.2	Gnd = Selected Open = Not Selected
J2-G04	Gnd Disc 03	Input	Terrain Awareness & TCF Inhibit (Gnd)	6.4.22	Gnd = Inhibit Open = Not Inhibit
J1B-10	Dout 08	Output	PWS Inhibit (DO #8)	7.3.10	
J1A-21	Dout 06	Output	Glideslope Manually Canceled Discrete (DO #6)	7.3.13	
J1B-12	Mon 3	Output	GPWS INOP discrete (monitor)	7.3.5	
J2-B13	Dout 04	Output	TCAS Inhibit discrete (DO #4)	7.3.11	
J1B-09	Dout 07	Output	Terrain Displayable #1 (DO #7)	7.3.7	
J2-F01	Mon 1	Output	Terrain Display INOP Discrete (Monitor) Terrain Not Available	7.3.5	
J2-A03	Mon 2	Output	Windshear INOP Discrete (Monitor)	7.3.5	
J2-F02	Dout 03	Output	Terrain/Obstacle Pop Up Discrete (added –210)	7.3.17	
J1A-13	Dout 05	Output	Wx/EGPWC Display Select Discrete #1 (DO #5)	7.3.6	
WARNING and ALERT LAMP CONFIGURATION					
Lamp Format: Type 2					
CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**	**REFERENCE**	**Flashing Lamp Capable[1]**
J1B-33	Dout 10	Output	GPWC Alert Discrete Terrain Awareness Caution Obstacle Awareness Caution[2]	7.3.1 7.3.4.1 7.3.4.1	No No No
J1B-11	Dout 09	Output	GPWC Warning Discrete Terrain Awareness Warning Obstacle Awareness Warning[2]	7.3.1 7.3.4.2 7.3.4.2	Yes Yes Yes
J2-A01	Dout 1	Output	Windshear Caution Discrete (DO #1)	7.3.2	Yes
J2-A02	Dout 2	Output	Windshear Warning Discrete (DO #2)	7.3.2	Yes

1 Lamp output will flash only if Flashing Lamps are selected in Category 4, see section 5.2.4.

2 Obstacle alerts introduced in P/N 965-1076-XXX-204-204.

Table 5.2.14-6: Input/Output Discrete Type 6

CONN PIN #	CHANNEL DESIGNATION REFERENCE	PIN TYPE	PIN FUNCTION	REFERENCE	Polarity/Configuration
J2-F04	Gnd Disc 02	Input	Altitude Callouts Enable Discrete	6.4.17	Gnd = Voice Enabled Open = Voice Disabled
J1B-08	28v Disc 19	Input	Audio Inhibit Discrete (+28V)	6.4.19	+28V = Inhibit 0V = Not Inhibit
J1B-16	Gnd Disc 32	Input	Audio Inhibit Discrete (Gnd)	6.4.18	Gnd = Inhibit Open = Not Inhibit
J1B-34	Gnd Disc 30	Input	Glideslope Cancel Discrete (Gnd)	6.4.14	Gnd = Cancel Open = Normal
J1B-02	28v Disc 21	Input	Glideslope Inhibit Discrete (+28V)	6.4.13	+28V = Inhibit 0V = Not Inhibit
J1A-05	Gnd Disc 27	Input	Glideslope Inhibit Discrete (Gnd)	6.4.12	Gnd = Inhibit Open = Not Inhibit
J1A-24	28v Disc 14	Input	Landing Flaps Discrete (+28V)	6.4.5	+28V = Not Landing Flap 0V = Landing Flap
J1B-24	Gnd Disc 14	Input	Landing Flaps Discrete (Gnd)	6.4.4	Gnd = Not Landing Flap Open = Landing Flap
J1B-07	28v Disc 20	Input	Landing Gear Discrete (+28V)	6.4.3	+28V = Gear Down 0V = Gear Up
J1B-23	Gnd Disc 16	Input	Landing Gear Discrete (Gnd)	6.4.2	Gnd = Gear Down Open = Gear Up
J1A-01	Gnd Disc 12	Input	Mode 6 Low Volume Discrete (Gnd)	6.4.16	Gnd = Low Volume Open = Normal
J1B-22	Gnd Disc 08	Input	Self Test Discrete (Gnd)	6.4.7	Gnd = Self Test Open = Normal
J2-C04	Gnd Disc 01	Input	Simulator Reposition Discrete	6.4.23	Gnd = Reposition Open = Normal
J1A-02	Gnd Disc 29	Input	Steep Approach Discrete #1 (Gnd)	6.4.8.1	Gnd = Enable Open = Disable
J2-E13	Gnd Disc 09	Input	Steep Approach Discrete #2 (Gnd)	6.4.8.2	Gnd = Selected Open = Not Selected
J2-G04	Gnd Disc 03	Input	Terrain Awareness & TCF Inhibit (Gnd)	6.4.22	Gnd = Inhibit Open = Not Inhibit
J1B-10	Dout 08	Output	Terrain Displayable #2 (DO #8)	7.3.7	
J1A-21	Dout 06	Output	PLI Select #1 (DO #6)	7.3.12	
J1B-12	Mon 3	Output	GPWS INOP discrete (monitor)	7.3.5	
J2-B13	Dout 04	Output	PLI Select #2 (DO #4)	7.3.12	
J1B-09	Dout 07	Output	Terrain Displayable #1 (DO #7)	7.3.7	
J2-F01	Mon 1	Output	Terrain Display INOP Discrete (Monitor) Terrain Not Available	7.3.5	
J2-A03	Mon 2	Output	Windshear INOP Discrete (Monitor)	7.3.5	
J2-F02	Dout 03	Output	Wx/EGPWC Display Select Discrete #2 (DO #3)	7.3.6	
J1A-13	Dout 05	Output	Wx/EGPWC Display Select Discrete #1 (DO #5)	7.3.6	
WARNING and ALERT LAMP CONFIGURATION					
Lamp Format: Type 1					
CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**	**REFERENCE**	**Flashing Lamp Capable[1]**
J1B-33	Dout 10	Output	GPWC Alert Discrete (Glideslope only)	7.3.1	No
J1B-11	Dout 09	Output	GPWC Warning Discrete Terrain Awareness Caution Terrain Awareness Warning Obstacle Awareness Caution[2] Obstacle Awareness Warning[2]	7.3.1 7.3.4.1 7.3.4.2 7.3.4.1 7.3.4.2	Yes Yes Yes Yes Yes
J2-A01	Dout 1	Output	Windshear Caution Discrete (DO #1)	7.3.2	No
J2-A02	Dout 2	Output	Windshear Warning Discrete (DO #2)	7.3.2	No

1 Lamp output will flash only if Flashing Lamps are selected in Category 4, see section 5.2.4.

2 Obstacle alerts introduced in P/N 965-1076-XXX-204-204.

Table 5.2.14-7: Input/Output Discrete Type 7

CONN PIN #	CHANNEL DESIGNATION REFERENCE	PIN TYPE	PIN FUNCTION	REFERENCE	Polarity/Configuration
J2-F04	Gnd Disc 02	Input	Altitude Callouts Enable Discrete	6.4.17	Gnd = Voice Enabled Open = Voice Disabled
J1B-08	28v Disc 19	Input	Audio Inhibit Discrete (+28V)	6.4.19	+28V = Inhibit 0V = Not Inhibit
J1B-16	Gnd Disc 32	Input	Audio Inhibit Discrete (Gnd)	6.4.18	Gnd = Inhibit Open = Not Inhibit
J1B-34	Gnd Disc 30	Input	Glideslope Cancel Discrete (Gnd)	6.4.14	Gnd = Cancel Open = Normal
J1B-02	28v Disc 21	Input	Glideslope Inhibit Discrete (+28V)	6.4.13	+28V = Inhibit 0V = Not Inhibit
J1A-05	Gnd Disc 27	Input	Glideslope Inhibit Discrete (Gnd)	6.4.12	Gnd = Inhibit Open = Not Inhibit
J1A-24	28v Disc 14	Input	Landing Flaps Discrete (+28V)	6.4.5	+28V = Not Landing Flap 0V = Landing Flap
J1B-24	Gnd Disc 14	Input	Landing Flaps Discrete (Gnd)	6.4.4	Gnd = Not Landing Flap Open = Landing Flap
J1B-07	28v Disc 20	Input	Landing Gear Discrete (+28V)	6.4.3	+28V = Gear Down 0V = Gear Up
J1B-23	Gnd Disc 16	Input	Landing Gear Discrete (Gnd)	6.4.2	Gnd = Gear Down Open = Gear Up
J1A-01	Gnd Disc 12	Input	Mode 6 Low Volume Discrete (Gnd)	6.4.16	Gnd = Low Volume Open = Normal
J1B-22	Gnd Disc 08	Input	Self Test Discrete (Gnd)	6.4.7	Gnd = Self Test Open = Normal
J2-C04	Gnd Disc 01	Input	Simulator Reposition Discrete	6.4.23	Gnd = Reposition Open = Normal
J1A-02	Gnd Disc 29	Input	Steep Approach Discrete #1 (Gnd)	6.4.8.1	Gnd = Enable Open = Disable
J2-E13	Gnd Disc 09	Input	Steep Approach Discrete #2 (Gnd)	6.4.8.2	Gnd = Selected Open = Not Selected
J2-G04	Gnd Disc 03	Input	Terrain Awareness & TCF Inhibit (Gnd)	6.4.22	Gnd = Inhibit Open = Not Inhibit
J1B-10	Dout 08	Output	Terrain Displayable #2 (DO #8)	7.3.7	
J1A-21	Dout 06	Output	Glideslope Manually Canceled Discrete (DO #6)	7.3.13	
J1B-12	Mon 3	Output	GPWS INOP discrete (monitor)	7.3.5	
J2-B13	Dout 04	Output	Audio On discrete (DO #4)	7.3.3	
J1B-09	Dout 07	Output	Terrain Displayable #1 (DO #7)	7.3.7	
J2-F01	Mon 1	Output	Terrain Display INOP Discrete (Monitor) Terrain Not Available	7.3.5	
J2-A03	Mon 2	Output	Windshear INOP Discrete (Monitor)	7.3.5	
J2-F02	Dout 03	Output	Wx/EGPWC Display Select Discrete #2 (DO #3)	7.3.6	
J1A-13	Dout 05	Output	Wx/EGPWC Display Select Discrete #1 (DO #5)	7.3.6	
WARNING and ALERT LAMP CONFIGURATION					
Lamp Format: Type 1					
CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**	**REFERENCE**	**Flashing Lamp Capable[1]**
J1B-33	Dout 10	Output	GPWC Alert Discrete (Glideslope only)	7.3.1	Yes
J1B-11	Dout 09	Output	GPWC Warning Discrete Terrain Awareness Caution Terrain Awareness Warning Obstacle Awareness Caution[2] Obstacle Awareness Warning[2]	7.3.1 7.3.4.1 7.3.4.2 7.3.4.1 7.3.4.2	Yes Yes Yes Yes Yes
J2-A01	Dout 1	Output	Windshear Caution Discrete (DO #1)	7.3.2	Yes
J2-A02	Dout 2	Output	Windshear Warning Discrete (DO #2)	7.3.2	Yes

[1] Lamp output will flash only if Flashing Lamps are selected in Category 4, see section 5.2.4.

[2] Obstacle alerts introduced in P/N 965-1076-XXX-204-204.

Table 5.2.14-8: Input/Output Discrete Type 8 (Military Mode support)

CONN PIN #	CHANNEL DESIGNATION REFERENCE	PIN TYPE	PIN FUNCTION	REFERENCE	Polarity
J2-F04	Gnd Disc 02	Input	Altitude Callouts Enable Discrete	6.4.17	Gnd = Voice Enabled Open = Voice Disabled
J1B-08	28v Disc 19	Input	Audio Inhibit Discrete (+28V)	6.4.19	+28V = Inhibit 0V = Not Inhibit
J1B-16	Gnd Disc 32	Input	Audio Inhibit Discrete (Gnd)	6.4.18	Gnd = Inhibit Open = Not Inhibit
J1B-34	Gnd Disc 30	Input	Glideslope Cancel Discrete (Gnd)	6.4.14	Gnd = Cancel Open = Normal
J1B-02	28v Disc 21	Input	Glideslope Inhibit Discrete (+28V)	6.4.13	+28V = Inhibit 0V = Not Inhibit
J1A-05	Gnd Disc 27	Input	Glideslope Inhibit Discrete (Gnd)	6.4.12	Gnd = Inhibit Open = Not Inhibit
J1A-24	28v Disc 14	Input	Landing Flaps Discrete (+28V)	6.4.5	+28V = Not Landing Flap 0V = Landing Flap
J1B-24	Gnd Disc 14	Input	Landing Flaps Discrete (Gnd)	6.4.4	Gnd = Not Landing Flap Open = Landing Flap
J1B-07	28v Disc 20	Input	Landing Gear Discrete (+28V)	6.4.3	+28V = Gear Down 0V = Gear Up
J1B-23	Gnd Disc 16	Input	Landing Gear Discrete (Gnd)	6.4.2	Gnd = Gear Down Open = Gear Up
J1A-01	Gnd Disc 12	Input	Tactical Mode Select (Momentary)	6.4.36	Gnd = Active Open = Normal
J1B-22	Gnd Disc 08	Input	Self Test Discrete (Gnd) (Momentary)	6.4.7	Gnd = Self Test Open = Normal
J2-C04	Gnd Disc 01	Input	Simulator Reposition Discrete	6.4.23	Gnd = Reposition Open = Normal
J2-G01	28v Disc 01	Input	Autopilot Disconnect #1	6.4.35	+28V = Normal Open = Active (Disconnect)
J2-G03	28v Disc 03	Input	Autopilot Disconnect #2	6.4.35	+28V = Normal Open = Active (Disconnect)
J2-E12	28v Disc 23	Input	Altitude Alert	6.4.37	+28V = Active 0V = Normal
J2-E14	Gnd Disc 10	Input	Flap Override (Momentary)	6.4.39	Gnd = Active Open = Normal
J1A-02	Gnd Disc 29	Input	Spare	-	-
J2-E13	Gnd Disc 09	Input	Weight On Wheels (Squat)	6.4.40	Gnd = On Ground Open = Not On Ground
J2-G04	Gnd Disc 03	Input	Terrain Awareness & TCF Inhibit (Gnd)	6.4.22	Gnd = Inhibit Open = Not Inhibit
J1B-10	Dout 08	Output	Tactical Mode Discrete	7.3.14	
J1A-21	Dout 06	Output	Glideslope Manually Canceled Discrete (DO #6)	7.3.13	
J1B-12	Mon 3	Output	GPWS INOP discrete (monitor)	7.3.5	
J2-B13	Dout 04	Output	Audio On discrete (DO #4)	7.3.3	
J1B-09	Dout 07	Output	Flap Ovrd Discrete	7.3.15	
J2-F01	Mon 1	Output	Terrain Display INOP Discrete (Monitor) Terrain Not Available	7.3.5	
J2-A03	Mon 2	Output	Windshear INOP Discrete (Monitor)	7.3.5	
J2-F02	Dout 03	Output	Wx/EGPWC Display Select Discrete #2 (DO #3)	7.3.6	
J1A-13	Dout 05	Output	Wx/EGPWC Display Select Discrete #1 (DO #5)	7.3.6	

Continued on next sheet

Table 5.2.14-8: Input/Output Discrete Type 8, Continued

WARNING and ALERT LAMP CONFIGURATION					
Lamp Format: Type 2					
CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**	**REFERENCE**	**Flashing Lamp Capable[1]**
J1B-33	Dout 10	Output	GPWC Alert Discrete Terrain Awareness Caution Obstacle Awareness Caution[2] Windshear Caution	7.3.1 7.3.4.1 7.3.4.1 7.3.2	No No No No
J1B-11	Dout 09	Output	GPWC Warning Discrete Terrain Awareness Warning Obstacle Awareness Warning[2] Windshear Warning	7.3.1 7.3.4.2 7.3.4.2 7.3.2	Yes Yes Yes Yes
J2-A01	Dout 1	Output	(DO #1) Spare	-	No
J2-A02	Dout 2	Output	(DO #2) Spare	-	No

[1] Lamp output will flash only if Flashing Lamps are selected in Category 4, see section 5.2.4.
[2] Obstacle alerts introduced in P/N 965-1076-XXX-204-204.

Table 5.2.14-9: Input/Output Discrete Type 9

CONN PIN #	CHANNEL DESIGNATION REFERENCE	PIN TYPE	PIN FUNCTION	REFERENCE	Polarity
J2-F04	Gnd Disc 02	Input	Altitude Callouts Enable Discrete	6.4.17	Gnd = Voice Enabled Open = Voice Disabled
J1B-08	28v Disc 19	Input	Audio Inhibit Discrete (+28V)	6.4.19	+28V = Inhibit 0V = Not Inhibit
J1B-16	Gnd Disc 32	Input	Audio Inhibit Discrete (Gnd)	6.4.18	Gnd = Inhibit Open = Not Inhibit
J1B-34	Gnd Disc 30	Input	Glideslope Cancel Discrete (Gnd)	6.4.14	Gnd = Cancel Open = Normal
J1B-02	28v Disc 21	Input	Glideslope Inhibit Discrete (+28V)	6.4.13	+28V = Inhibit 0V = Not Inhibit
J1A-05	Gnd Disc 27	Input	Glideslope Inhibit Discrete (Gnd)	6.4.12	Gnd = Inhibit Open = Not Inhibit
J1A-24	28v Disc 14	Input	Landing Flaps Discrete (+28V)	6.4.5	+28V = Not Landing Flap 0V = Landing Flap
J1B-24	Gnd Disc 14	Input	Landing Flaps Discrete (Gnd)	6.4.4	Gnd = Not Landing Flap Open = Landing Flap
J1B-07	28v Disc 20	Input	Landing Gear Discrete (+28V)	6.4.3	+28V = Gear Down 0V = Gear Up
J1B-23	Gnd Disc 16	Input	Landing Gear Discrete (Gnd)	6.4.2	Gnd = Gear Down Open = Gear Up
J1A-01	Gnd Disc 12	Input	Mode 6 Low Volume Discrete (Gnd)	6.4.16	Gnd = Low Volume Open = Normal
J1B-22	Gnd Disc 08	Input	Self Test Discrete (Gnd)	6.4.7	Gnd = Self Test Open = Normal
J2-C04	Gnd Disc 01	Input	Simulator Reposition Discrete	6.4.23	Gnd = Reposition Open = Normal
J1A-02	Gnd Disc 29	Input	Steep Approach Discrete #1 (Gnd)	6.4.8.1	Gnd = Enable Open = Disable
J2-E13	Gnd Disc 09	Input	Steep Approach Discrete #2 (Gnd)	6.4.8.2	Gnd = Selected Open = Not Selected
J2-G04	Gnd Disc 03	Input	Terrain Awareness & TCF Inhibit (Gnd)	6.4.22	Gnd = Inhibit Open = Not Inhibit
J1B-10	Dout 08	Output	PWS Inhibit (DO #8) (**Added in –214-214)**	7.3.10	
J1A-21	Dout 06	Output	Glideslope Manually Canceled Discrete (DO #6)	7.3.13	
J1B-12	Mon 3	Output	GPWS INOP discrete (monitor)	7.3.5	
J2-B13	Dout 04	Output	Audio On discrete (DO #4)	7.3.3	
J1B-09	Dout 07	Output	WXR Control Discrete (DO #7) [3]	7.3.16	
J2-F01	Mon 1	Output	Terrain Display INOP Discrete (Monitor) Terrain Not Available	7.3.5	
J2-A03	Mon 2	Output	Windshear INOP Discrete (Monitor)	7.3.5	
J2-F02	Dout 03	Output	Wx/EGPWC Display Select Discrete #2 (DO #3)	7.3.6	
J1A-13	Dout 05	Output	Wx/EGPWC Display Select Discrete #1 (DO #5)	7.3.6	
WARNING and ALERT LAMP CONFIGURATION					
Lamp Format: Type 2					
CONN PIN #	**CHANNEL DESIGNATION REFERENCE**	**PIN TYPE**	**PIN FUNCTION**	**REFERENCE**	**Flashing Lamp Capable[1]**
J1B-33	Dout 10	Output	GPWC Alert Discrete Terrain Awareness Caution Obstacle Awareness Caution[2]	7.3.1 7.3.4.1 7.3.4.1	No No No
J1B-11	Dout 09	Output	GPWC Warning Discrete Terrain Awareness Warning Obstacle Awareness Warning[2]	7.3.1 7.3.4.2 7.3.4.2	Yes Yes Yes
J2-A01	Dout 1	Output	Windshear Caution Discrete (DO #1)	7.3.2	Yes
J2-A02	Dout 2	Output	Windshear Warning Discrete (DO #2)	7.3.2	Yes

[1] Lamp output will flash only if Flashing Lamps are selected in Category 4, see section 5.2.4.

[2] Obstacle alerts introduced in P/N 965-1076-XXX-204-204.

[3] Use of WXR Scan Control requires activation of EFIS-FMS inputs per 5.2.16.

5.2.15 Category 15, Parity Select (Ppin 5)

Document Revision History, Section 5.2.15

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/20/97 - A Loos	Table 5.2.15	Add effectivity to table 5.2.15.	202	202
26-MAY-00 – M. Henderson	Table 5.2.15	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
15-FEB-01 – S. Wright	Table 5.2.15	SCR 5809: Changed PP5 State from J2-59 to J2-B9	213	213

The following table provides identification of Parity Selection.

Table 5.2.15: Parity Select (Ppin 5)

ID	PP 5 State (J2-B9)	Parity	Effectivity App.	Effectivity Cfg.
0	1	False	202	202
1	2	True	202	202
2	3	Invalid		
3	4	Invalid		
4	5	Invalid		
5	6	Invalid		
6	7	Invalid		
7	8	Invalid		
8	9	Invalid		
9	10	Invalid		

5.2.16 Category 16, Optional Input Selection (Ppin 7)

Document Revision History, Section 5.2.16

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
07/09/98 - MJC	All	SCR 2670: Initial Release and entry into SDS.	206	206
08/06/98 - MJC	All	SCR 2670: Changed bus fault designator from 'Hazard Bus' to 'Weather Radar Hazard Bus'.	206	206
06-JAN-99 - MJC	5.2.16	Reserved ID #8 for future use.	-	-
06-APR-99 - MJC	5.2.16.1	SCR 3752: Added ID #8.	-210	-210
17-MAY-99 BKO	All	SCR 3891: Tracing fix only. Added "Traceability" in front of all hidden req. Also added new req to table 8.		
26-MAY-00 – M. Henderson	Table 5.2.16	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-

Table 5.2.16: Optional Input Select (Ppin 7)

ID	PP7 State (J2-A12)	Adds Inputs per (Table 5.2.16.1-x)	Application Note	Effectivity App.	Effectivity Cfg.
0	1	-	No Inputs added	-	-
1	2	1	PWS (label 075) on channel 1 (see note 1)	206	206
2	3	2	PWS (label 075) on channel 2 (see note 1)	206	206
3	4	3	PWS (label 075) on channel 3 (see note 1)	206	206
4	5	4	PWS (label 075) on channel 4 (see note 1)	206	206
5	6	5	PWS (label 075) on channel 5 (see note 1)	206	206
6	7	6	PWS (label 075) on channel 6 (see note 1)	206	206
7	8	7	Dual PWS (label 075) on channels 4 & 6	206	206
8	9	8	EFIS-FMS bus enable for WXR Scan Control	210	210
9	10	-	Invalid		

Note 1: Use of these options on aircraft types having dual PWS systems requires the installation of a relay. This relay is required to switch the two hazard buses into the single EGPWS input channel. The discrete that controls the radar antenna waveguide switching relay is used to control this relay.

5.2.16.1 Optional Input Selection

Table 5.2.16.1-1: Optional Input Group 1

CHANNEL RX429-1	CONNECT TO: PWS Hazard Bus (High Speed)		Fault Designation: WEATHER RADAR HAZARD BUS Bus Type: Basic					
A = J2-C6 B = J2-C7	Data Status Word	Reference 6.1.16.1	Label 075	Sig. Bits Discrete	Range N/A	Signal Type Basic	Resolution N/A	Rate (ms) 20 - 160

Table 5.2.16.1-2: Optional Input Group 2

CHANNEL RX429-2	**CONNECT TO: PWS Hazard Bus (High Speed)**		**Fault Designation: WEATHER RADAR HAZARD BUS Bus Type: Basic**					
A = J2-C8 B = J2-C9	Data Status Word	Reference 6.1.16.1	Label 075	Sig. Bits Discrete	Range N/A	Signal Type Basic	Resolution N/A	Rate (ms) 20 - 160

Table 5.2.16.1-3: Optional Input Group 3

CHANNEL RX429-3	**CONNECT TO: PWS Hazard Bus (High Speed)**		**Fault Designation: WEATHER RADAR HAZARD BUS Bus Type: Basic**					
A = J2-K8 B = J2-K9	Data Status Word	Reference 6.1.16.1	Label 075	Sig. Bits Discrete	Range N/A	Signal Type Basic	Resolution N/A	Rate (ms) 20 - 160

Table 5.2.16.1-4: Optional Input Group 4

CHANNEL RX429-4	**CONNECT TO: PWS Hazard Bus (High Speed)**		**Fault Designation: WEATHER RADAR HAZARD BUS Bus Type: Basic**					
A = J1A-11 B = J1A-12	Data Status Word	Reference 6.1.16.1	Label 075	Sig. Bits Discrete	Range N/A	Signal Type Basic	Resolution N/A	Rate (ms) 20 - 160

Table 5.2.16.1-5: Optional Input Group 5

CHANNEL RX429-5	**CONNECT TO: PWS Hazard Bus (High Speed)**		**Fault Designation: WEATHER RADAR HAZARD BUS Bus Type: Basic**					
A = J1A-17 B = J1A-18	Data Status Word	Reference 6.1.16.1	Label 075	Sig. Bits Discrete	Range N/A	Signal Type Basic	Resolution N/A	Rate (ms) 20 - 160

Table 5.2.16.1-6: Optional Input Group 6

CHANNEL RX429-6	**CONNECT TO: PWS Hazard Bus (High Speed)**		**Fault Designation: WEATHER RADAR HAZARD BUS Bus Type: Basic**					
A = J1A-22 B = J1A-23	Data Status Word	Reference 6.1.16.1	Label 075	Sig. Bits Discrete	Range N/A	Signal Type Basic	Resolution N/A	Rate (ms) 20 - 160

Table 5.2.16.1-7: Optional Input Group 7

CHANNEL RX429-4	**CONNECT TO: PWS #1 Hazard Bus (High Speed)**		**Fault Designation: WEATHER RADAR HAZARD BUS 1 Bus Type: Basic**					
A = J1A-11 B = J1A-12	Data Status Word	Reference 6.1.16.1	Label 075	Sig. Bits Discrete	Range N/A	Signal Type Basic	Resolution N/A	Rate (ms) 20 - 160
CHANNEL RX429-6	**CONNECT TO: PWS #2 Hazard Bus (High Speed)**		**Fault Designation: WEATHER RADAR HAZARD BUS 2 Bus Type: Basic**					
A = J1A-22 B = J1A-23	Data Status Word	Reference 6.1.16.1	Label 075	Sig. Bits Discrete	Range N/A	Signal Type Basic	Resolution N/A	Rate (ms) 20 - 160

Table 5.2.16.1-8: Optional Input Group 8

CHANNEL RX429-4	**CONNECT TO: EFIS-FMS Bus #1 (Low Speed)**		**Fault Designation: EFIS BUS 1 Bus Type: TA&D**					
A = J1A-11 B = J1A-12	Data Discrete Word	Reference 6.1.16.2	Label 273	Sig. Bits 31/30	Range N/A	Signal Type TA&D	Resolution N/A	Rate (ms) 1000
CHANNEL RX429-6	**CONNECT TO: EFIS-FMS Bus #2 (Low Speed)**		**Fault Designation: EFIS BUS 2 Bus Type: TA&D**					
A = J1A-22 B = J1A-23	Data Discrete Word	Reference 6.1.16.2	Label 273	Sig. Bits 31/30	Range N/A	Signal Type TA&D	Resolution N/A	Rate (ms) 1000

Note: Discrete I/O category 14, ID #9 activates the Discrete Output for WXR Scan Control.

5.2.17 Category 17, Options Select Group #4 (Ppin 23)

Document Revision History, Section 5.2.17

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
04-JAN-99 – F. Trowbridge	All	SCR 3336: Initial version.	208	208
25-FEB-99 – MJC	All	SCR 3570: Added GPS Altitude Reference selection.	208	208
5-NOV-99 - JDK	All	SCR 4334: Added note to clarify MSL & WGS-84 altitude reference selection	-	-
26-MAY-00 – M. Henderson	Table 5.2.17	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
10-AUG-01-Krish	All	SCR 5959: Added column “callout menu id prefix digit”	214	214
28-Aug-01 – S. Gagnon	5.2.17	SCR 6335 Added Part Number 965-1076-030, I/GPS	213	213
18-SEP-01 – Krish	All	SCR 5959: Modified callout Menu id prefix digit to ‘Add 500 callout option’ configuration item.	214	214
14-NOV-01 – MJC	5.2.17	SCR 5959: Clarified selection criteria for this program pin.	214	214

The following table provides identification of the Options Select Group #4. This includes: ‘Peaks Mode Enable’, ‘GPS Altitude Reference Selection’ and ‘Add 500 Callout Option’ (which was added in –214-214).

When selected, *Peaks Enabled* will be reported during level 3 self test and in the RS232 Present Status display.
The EGPWS expects that the GPS Altitude (label 076) be referenced to Mean Sea Level (MSL). However, some GPS output altitude referenced to WGS-84. If the GPS being used does supply Altitude referenced to WGS-84 then the WGS-84 program pin option must be selected as defined below. As noted below, if using Internal GPS this option must NOT be selected. When selected, *GPS Altitude Reference WGS84 Selected* will be reported during level 3 self test and in the RS232 Present Status display.

Selecting the ‘Add 500 callout’ option enables selection of altitude callout menus 100 to 199. This option allows the user to add a 500 callout to any of the defined menus 0 through 99. If 500 is already present in the menu selection then this option should not be selected. Selection of this option will be reflected in the Altitude Callout menu number reported during level 3 self test and in the RS232 Present Status display.

Table 5.2.17: Options Select Group #4 (Ppin 23)

ID	PP 23 State (J2-A11)	Add 500 Callout option (added in –214-214) See Note 2	GPS Altitude Reference See Note 1	Peaks Enable	Effectivity App.	Effectivity Cfg.
0	1	0	MSL	False	-	-
1	2	0	MSL	True	208	208
2	3	0	WGS-84	False	208	208
3	4	0	WGS-84	True	208	208
4	5	1	MSL	False	214	214
5	6	1	MSL	True	214	214
6	7	1	WGS-84	False	214	214
7	8	1	WGS-84	True	214	214
8	9		Invalid	Invalid		
9	10		Invalid	Invalid		

Note 1: Part numbers 965-1076-02x-xxx-xxx, -03x-xxx-xxx and -06x-xxx-xxx are internal GPS equipped EGPWS. This GPS supplies altitude referenced to MSL so the MSL GPS altitude reference must be selected when using internal GPS with these part numbers. The correct GPS altitude reference must also be selected when using an external GPS input to the EGPWS. Confirm with your GPS supplier whether the altitude is MSL or WGS-84.

Note 2: Do not select this option if selecting the Smart Callout in Category 11 (section 5.2.11).

6 Appendix A: Input Data Definition

Document Revision History, Appendix A, Section 6

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/07/97 - A. Loos	6.3.1.2.2 6.3.1.2.3 6.3.2.1 6.3.2.2 6.3.3.1.2 6.3.3.2.6	Changed fonts and in 6.3.3.1.2 changed subscript in scale from V_{dc} to V_{ac}	202	202
11/07/97 - A Loos	6.4.1	Removed discrete inputs not currently used on enhanced MK VII. Changed "flaps" to "gear" in body of Landing Gear Discrete. Changed "…valid" to "… in progress" in Acceleration Self Test In Progress.	202	202
11/21/97 - G Ostrom	6.3.1.1.5	Revised 6.3.1.1.5, added Discrete Validity, 28 V.	202	202
11/25/97 - G Ostrom	6.3.2.1, 6.3.2.2	Revised Dynamic Range, Reasonable Range and Status Mask for 6.3.2.1 and 6.3.2.2.	202	202
12/01/97 - G Ostrom	6.3.3.4.3	SCR 2372, Added 6.3.3.4.3 SAT Constant.	202	202
12/03/97 - G Ostrom	6.3.3.2.2, 6.3.3.2.3	SCR 2380, Revised signal dynamic range, signal reasonable range, and AAC FIFO LSB for 6.3.3.2.2, 6.3.3.2.3.	202	202
12/03/97 - G Ostrom	6.3.3.2.8	SCR 2384, Revised signal dynamic range for 6.3.3.2.8. Changed voltage range from 11.03 to 11.30	202	202
12/04/97 - G Ostrom	6.3.1.1.2, 6.3.1.1.5	SCR 2394, Changed the sign from - to + for the scale offset for both 6.3.1.1.2 and 6.3.1.1.5.	202	202
12/10/97 - G Ostrom	6.3	SCR 2413, Changed the AAC FIFO LSB for Long Acceleration to 0.00012207g in Table 6-1.	202	202
12/19/97 - A Loos	6.1.6.11	Changed ARINC 743 to ARINC 743A	202	202
01/06/98 - G Ostrom	6.3.1.1.2, 6.3.1.1.5, 6.3.1.2.2, 6.3.4.1.3, 6.3.4.1.4	Added the reference to Synchro Angle to Signal Dynamic Range and Signal Reasonable Range for 6.3.1.1.2, 6.3.1.1.5, 6.3.1.2.2, 6.3.4.1.3, 6.3.4.1.4.	202	202
01/14/98 - M Calhoun	6.1.6.11.1 6.1.6.35.1	SCR 2122: Added ARINC 743 definitions of HFOM and VFOM.	204	204
01/27/98 - G Ostrom	6.4.1.21	Revised title of discretes from Terrain Pop-up Discretes to Display Select Discretes. Updated note associated with 6.1.6.21.	204	204
02/16/98 – A. Anderson	6.3.1.1.8 6.3.1.1.9 6.3.1.1.10 6.3.1.1.11	SCR 2578: Added AOA sections 6.3.1.1.8, 6.3.1.1.9, 6.3.1.1.10, 6.3.1.1.11. Inserted hidden traceability identifiers.	204	204
02/16/98 – A. Anderson	6.3.3.1.4 6.3.3.1.5 6.3.3.2.9 6.3.3.2.10 6.3.3.2.11 6.3.3.3.4	SCR 2579: Added Air Data sections 6.3.3.1.4, 6.3.3.1.5, 6.3.3.2.9, 6.3.3.2.10, 6.3.3.2.11, 6.3.3.3.4 Modified formatting for Word97.	204	204
02/24/98 – B Breen	6.1.7.10	SCR 2591: Added Terrain Display control words for Honeywell BA 747 Advisory Map Display	204	204
03/02/98 – G Ostrom	6.3.1.1.2, 6.3.1.1.5	SCR 2601: Updated scaling for AOA #2 x y swap in sections 6.3.1.1.2 and 6.3.1.1.5.		204

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
03/02/98 – G Ostrom	6.3.1.2.3	SCR 2603: Updated scaling for DC 10 Flap. Removed scale factor.		204
03/02/98 – A. Anderson	6.3.3.1.4 6.3.3.2.9	SCR 2579: Modified header for Table 6.3.3.1.4 & 6.3.3.2.9	204	204
03/03/98 – G Ostrom	6.2.5	SCR 2604: Replaced TAS section 6.2.5 with reserved.		204
02/17/98 - M Calhoun	6.3 & 6.3.6.1 Added 6.4.1.32	SCR 2581: Added Mag Hdg synchro input. Added Mag Heading validity discrete.	204	204
03/09/98 – B. Breen	6.1.3.1.1, 6.1.3.2.1, 6.1.3.2.3, 6.1.3.3.1, 6.1.3.3.2, 6.1.3.4.2	SCR 2590: Added DAU as additional source for air data signals at different rates; added TAT section.	204	204
03/11/98 – B. Breen	6.3.4.1.3, 6.3.4.1.4	SCR 2590: Added second channel definitions for synchro pitch & roll.	204	204
03/14/98 – B. Breen	6.3.1.1.12, 6.3.1.2.6	SCR 2588: Added 747 classics AOA and Flaps	204	204
03/16/98 – G. Ostrom	6.3.1.1.13, 6.3.1.2.7	SCR 2619: Added Cessna Citation Bravo AOA and Flaps	204	204
03/18/98 – G. Ostrom	6.3.3.2.11	Corrected typo: Z leg input signal connection.	204	204
03/20/98 – P. Blankas	Added 6.3.1.1.14, Added 6.3.1.2.8	SCR 2616: Added 737-200 AOA and flaps	204	204
03/26/98 – G. Ostrom	6.3.3.1.5	Clarified Scale description for baro rate.	204	204
3/27/98 – A Loos	6.3.5.1 6.3.5.2	SCR 2590: Add second channel to match TABLE 5.2.5-2.	204	204
03/31/98 – G. Ostrom	6.3.1.1.3	Updated header to add –9 to Safeflight C-116606-5, -6. No requirement change.	204	204
04/01/98 – P. Blankas	6.3.1.2.8	Clarified synchro range	204	204
04/07/98 – MJC	6.1.6.33	SCR 2656: Added SDI definition for DAU True Heading.	204	204
04/07/98 – G. Ostrom	6.3.1.2.6	SCR 2588: Revised 747 classics AOA #2 scaling	204	204
04/14/98 – A. Anderson	6.3.3.2.7	SCR 2579: Changed tracing on Table 6.3.3.2.7 to Future.	204	204
04/21/98 – G. Ostrom	6.1.3.4.1 6.1.3.4.2	Corrected typos in LSB.	-	-
04/27/98 – G. Ostrom	6.3.6.1	SCR 2682: Revised Validity Flag connection.	204	204
05/04/98 – A Loos	Table 6-1 6.3.3.1.5	Correct LSB in Table 6-1 and change 6.3.3.1.5 LSB to reference Table 6-1.	204	204
06/01/98 – A Loos	6.1.3.1.2 6.1.3.1.3 6.1.3.2.4 6.1.6.12 6.1.6.14 6.1.6.36 6.1.6.37	Move Labels 165, 361 and 365 from 6.1.6.x to Air Data Section 6.1.3.x to be consistent with category grouping. Delete Label 203 in 6.1.6.37 (Duplicate to 6.1.3.2.3). Corrected subparagraph numbering in 6.1.	-	-
06/12/98 – G Ostrom	6.1.7.11	SCR 2535: Added Honeywell RS-422 SCI Mode/Range word interface.	206	206
06/16/98 – G Ostrom	6.1.7.11	SCR 2535: Removed Mode word definition of the Honeywell RS-422 SCI interface.	206	206
06/19/98 – MJC	6.4.1.4 6.4.1.5	SCR 2686: Revised Flap Discrete audio in level 6 self test to reflect actual land flap position.	206	206
06/23/98 – MJC	6.1.16	SCR 2670: Added section for PWS Status Word.	206	206
06/30/98 – G. Gilliland	6.3.3.3.5	SCR 2895: Added ARINC 545 CAS	206	206

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
07/01/98 – G Ostrom	6.1.6.39 – 6.1.6.43	SCR 2620: Added Xpress GPS packet definitions.	206	206
07/07/98 – G Ostrom	6.3.1.2.9 6.3.1.3.1 6.3.1.4.1	SCR 2899, 2900: Added Shaker Margin and PLI Monitor to table 6-1. Added Flap Angle 6.3.1.2.9 DC-Selsyn, 6.3.1.3.1 Shaker Margin, and 6.3.1.4.1 PLI Monitor.	206	206
0707/98 – P. Blankas	6.3.1.1.15	SCR 2899: Added new AOA type for DC-8	206	206
07/17/98 – A Loos	6.3.1.1.4 6.3.1.1.6 6.3.1.1.7 6.3.1.1.8 6.3.1.1.9 6.3.1.1.10 6.3.1.1.11 6.3.1.2.4	Remove extraneous units such as "/Vdc" from DC/AC Ratio Signals (no change to AAC scale equations, editorial correction only).	206	206
07/17/98 – G. Ostrom	6.3.1.2.9	Fixed text format in Flap Angle, DC-Selsyn (DC-8)	206	206
07/24/98 – G. Gilliland	6.3.3.3.5	Corrected Scaling and Signal Dynamic Range parameters for ARINC 545 CAS	206	206
07/27/98 – J. Kistler	6.3.1.1.16	SCR 3001: Added AOA type for CL600/601.	206	206
07/30/98 – J. Kistler	6.3.1.1.16	SCR 3001: Corrected Signal Reasonable Range.	206	206
07/30/98 – L. Matter	6.3.1.1-17	SCR 2996: Added AOA type for Beechjet 400.	206	206
08/06/98 – G. Ostrom	6.3.1.2.9	Flap Angle, DC-Selsyn (DC-8): Removed extraneous text.	206	206
08/07/98 – R. Halbert	6.3.1.1.18	SCR 3017: Added AOA type for Lear 31A.	206	206
08/07/98 – J. Mulkins	6.3.1.1.19 6.3.1.1.20	SCR 2975: Added AOA Type for Lear 55. SCR 2976: Added AOA Type for Lear 35 (60° AOA).	206	206
08/07/98 – R. Halbert	6.1.7.12	SCR 3029: Added Bendix Weather Radar Vertical Profile Mode.	206	206
08/10/98 – MJC	6.1.7.12	SCR 3029: Added label 273 definition.	206	206
08/12/98 – MJC	6.1.7.3	SCR 2866: Added label 273 for FDS-255 Range.	206	206
08/13/98 – MJC	6.3.1.2.10	SCR 3041: Added Bravo Flap input.	206	206
08/14/98 – MJC	6.3.1.2.21	SCR 3043: Added AOA Type for Lear 35 (50° AOA).	206	206
09/09/98 – A Loos	All	Corrected formatting problems and corrected paragraph level in 6.4	-	-
09/18/98 – Gary C. Boyd	6.1.7.9 6.1.7.9.1 (new)	SCR 3125: Added Input processing for Primus 1000 display (IC600 controller).	206	206
09/21/98 – Alan Anderson	6.3.1.2.7	SCR 3123: Removed tracing from section 6.3.1.2.7.	206	206
09/21/98 – Gary Boyd	6.2.x and 6.3.x	Corrected section numbering	-	-
10/05/98 – G Ostrom	6.3.4.2.2	SCR 3164: Revised signal dynamic range of Normal Acceleration 6.3.4.2.2 from +-5 to +- 4gs. This is a document only change.	-	-
10/05/98 – MJC	6.3.1.1.3 6.3.1.2.4	SCR 3189: Deleted AOA range monitoring. Revised Flap scaling and signal ranges.	-	-206
10/6/98 - LDM	6.3.1.1.3 6.3.1.2.4	SCR 3189: Correcting Signal Dynamic Range and Signal Reasonable Range Parameters. Correct Scale offset – Add degree sign to 6.3.1.2.4	-	-206
10/6/98 – LDM	6.3.1.1.3 6.3.1.1.22	SCR 3189: return 6.3.1.1.3 to previous configuration for Hawker 800 and create 6.3.1.1.22 for Citation V Ultra	-	206
10/6/98 - JDK	Revision History	Updated LDM changes on 10/6/98 to reflect the correct SCR number (SCR 3189)	-	-

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
10/07/98 – MJC	6.3.1.1.3 6.3.1.1.22	SCR 3189: Deleted AOA range monitoring and revised offset. Deleted AOA range monitoring.	-	-206
10/09/98 – GAO	6.4.33 6.4.34	Added description of AOA vane heater and PLI deselect switch discretes.	-	-
11/16/98 – N. F. Menzies	6.3.1.1.23	SCR 3236: Added C-141 AOA.	-	-208
11/16/98 – A Loos	6.3.3.3.6:	SCR 3239: Added C-141 CAS	-	-208
17/NOV/98 - NSP	6.1.6.6.4	SCR 3012: Added C-141	-	-208
24/NOV/98 – N. Menzies	6.4.27 6.4.35 6.4.36 6.4.37	SCR 3240: Changed to Airspeed Validity #1/#2 SCR 3244: Added Autopilot Disconnect Discretes SCR 2799 Added Tactical Select Discrete. SCR 3246: Added Altitude Alert Discrete.	-208	-208
24/NOV/98 - NFM	Revision History	Corrected the previous two effectivity entries.	-	-
25/NOV/98 - NFM	Added 6.1.6.6.4	SCR 3345: Added FMS Discrete Word – Type 4	-208	-208
30/NOV/98 – J. Kistler	6.3.1.1.24	SCR 3328: Added ASTRA SP AOA	-	-208
30/NOV/98 – J. Kistler	6.3.1.1.25	SCR 3329: Added Westwind II AOA	-	-208
30/NOV/98 – A Loos	6.3.3.1.5 6.3.3.2.12	SCR 3239: Add Dual Analog Uncorrected Baro Alt (Add Fine #2 for Baro Rate and Coarse) for C-141	-	-208
01/DEC/98- NFM	Rev History	Corrected SCR numbers for entry 24/NOV/98, 6.4.36 and 6.4.37. (SCR's 2799 and 3246)	-	-
04/DEC/98 – A Loos	6.3.2.3	SCR 3372: Add interface definition of APN-171/232 Radar Altimeter	-	-208
04/DEC/98 – A Loos	6.3.1.2.11	SCR 3234: Add interface definition of C-130 DC Selsyn Flap Input	-	-208
04/DEC/98 – J. Kistler	6.3.1.1.24 6.3.1.1.25	SCR 3328 & 3329: Updated AOA data for ASTRA SP and Westwind II	-	-208
09/DEC/98 – A Loos	6.3.1.2.12	SCR 3012: Add interface definition of C-141 Flap Synchro Input.	-	-208
09/DEC/98 – A Loos	Removed 6.1.6.6.4	SCR 3345: Removed FMS Discrete Word – Type 4	-	-208
09/DEC/98 – A Loos	6.3.1.2.12	SCR 3012: Add usage note to definition of C-141 Flap Synchro Input.	-	-
16/DEC/98 – D. Sawich	6.3.3.2.13 6.3.3.2.14 6.3.3.4.4	SCR 3404: Added non ARINC compliant Fine and Course Corrected Baro Alt for L1011 aircraft. Added ARINC 565 SAT (DC Ratio) with Validity.		-208
17/DEC/98 – D. Sawich	6.3.3.4.4	Changed External Validity Type to "Discrete Validity, 28 VDC."		-208
17/DEC/98 – J. Kistler	6.3.1.1.4 6.3.1.1.13	SCR 3425 & 3426: Updated reasonableness checks for both the Hawker 700 and Citation Bravo		-208
21/DEC/98 – M. Force	6.3.1.1.26 6.3.1.2.13	SCR 2881: Add AOA and Flap type for DC-9 and C-9.		-208
22/DEC/98 – J. Kistler	6.4.38	SCR 3405: Added discrete definition for Corrected Barometric Altitude Validity discrete		-208
05/JAN/99 – A. Anderson	6.1.2.5	SCR 3424: Added EFIS (ISDAS) Decision Height		-208
06-Jan-99 – G. Burlingame	6.3.1.3.2	SCR 3440: Added DC Shaker Margin definition.		-208
14-JAN-99 - NSP	6.1.4.1.8	SCR 3413: Added 429 Roll Rate definition.		-208
18/JAN/99 - NSP	6.3.3.3.6	SCR 3239: Revised CAS No.1 Reference pinout.		-208
09/FEB/99 – A Loos	6.3.2.3	SCR 3372: Update AAC Status Mask for APN-171/232 Radar Altimeter	-	-208
10/FEB/99 – J. Kistler	6.3.1.1.13 6.3.1.1.4	SCR 3425 & 3426: Added note to clarify when the AOA reasonableness changes were made (doc only)	-	-

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
26/FEB/99 – N.F.Menzies	6.4.39 6.4.40	SCR 3251: Added to new section for Momentary Flap Override and Weight On Wheels Discretes.	-	-208
26-FEB-99 – L. Matter	6.3.1.1.6 6.3.1.1.7 6.3.1.1.16	SCR 3574: Changed AAC Status Mask from "000030FF" to "000030F0". Added Note 1: AAC Status Mask changed to turn off signal reasonableness test, was "000030FF" prior to –208.	-	-208
15-MAR-99 – A Loos	6.3.3.3.6	SCR 3661: Swap pin assignments on CAS #2, J2-D8 & D9.	-	-208
15-MAR-99 R.W. Halbert	6.3.1.1.27-33 6.3.1.2.14-19 6.3.4.2.5 6.3.4.2.6	SCR 3626 Added A/C Type 57 for L1011 Added A/C Type 58 for A300 Added A/C Type 59 for B747 SP Added A/C Type 60 for DC 9-10 Added A/C Type 61 for DC 9-21 Added A/C Type 63 for BAC 111 Added Normal Acceleration for L1011 Added Longitudinal Acceleration for L1011	-210 -210 future future future future -210 -210	-210 -210 future future future future -210 -210
17-MAR-99 – A Loos	6.3.2.2	Removed "ALT50" from Signal Name in 6.3.2.2 and other format and name corrections.	-	-
30-MAR-1999 – A Loos	ALL	SCR 3722. Split off ARINC 575/Analog/Discrete sections into individual files. No requirement changes.	-	-
06-APR-99 – MJC	6.1.16.2	SCR 3752. Added label 273 definition. Also corrected numbering for section 6.1.16.1 (was 6.1.8.4).	-210	-210
09-APR-99 – M. Grigore	6.1.7.21 6.1.7.22	SCR 3900 & 3718: Added sections 6.1.7.21 and 6.1.7.22 for Query Response and Key Press Data label definitions, respectively.	-210	-210
13-APR-99 – M. Grigore	6.1.7.13 6.1.7.14	SCR 3900 & 3718: Renamed sections 6.1.7.21 and 6.1.7.22 to 6.1.7.13 and 6.1.7.14 respectively.	-210	-210
20-APR-99 – M. Grigore	6.1.7.13	SCR 3900: Updated Query Response (label 011) format definition.	-210	-210
26-APR-99 – MJC	6.1.7.10.1	SCR 3568. Added Map Mode Track up bit definition in 6.1.7.10.1.	-210	-210
7-MAY-99 – P. Bateman	6.1.7.15 6.1.7.16	SCR 3718: Added definitions for Range label (271) from TDU/DSU and DSU Status Word (350).	-210	-210
10-MAY-99 – P. Bateman	6.1.7.16	SCR 3718: Updated Transmit Interval for DSU Status Label (350)	-210	-210
11-MAY-99 – P. Bateman	Audit Trail	SCR 3718: Updated Audit Trail references for May 7,10 to reflect SCR 3718.	-210	-210
11-MAY-99 – M. Grigore	Audit Trail 6.1.7.13 6.1.7.14	SCR 3900: Changed all SCR 3391 prior references to SCR 3900. SCR 3900: Added Note on Columns/Rows in Range. Added FMS as Query Response Source. SCR 3718: Updated Character Definition. Added FMS as Key Press Data Source.	-	-
24-MAY-99- M. Grigore	Audit Trail 6.1.7.13	Changed reference SCR 2698 changes related to 6.1.7.13 to SCR 3900. Changed reference SCR 2698 changes related to 6.1.7.14 to SCR 3718. SCR 3900: Updated label 011 data to reflect both Query and Continuous Response.	-210	-210
24-MAY-99- M. Grigore	Audit Trail	Changed reference SCR 3877 to SCR 3718.	-	-
15-JUL-99- M. Calhoun	6.1.7.7.5	SCR 4032: Added label 110 definition.	-210	-210
24-Sep-99 - A Loos	ALL	SCR 4334: Correct format errors	-	-

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
19-OCT-99 – M. Grigore	6.1.7.13, 6.1.7.14	SCR 4334: Updated 6.1.7.13 to reference the EGPWS Interface Methodology and made 6.1.7.14 FUTURE.	-210	-210
03-FEB-00- M. Calhoun	6.1.2.5	SCR 4855: Corrected ISDAS DH signal definition.	-212	-212
11-FEB-00 – M. Force	6.1.3.2.2	SCR 4872: Added FMS to title and changed Transmit Interval from TBD to 100.	-212	-212
17-MAR-00 – S. Arnett	6.1.5.3	SCR 4939: Corrected ARINC 701 to ARINC 710.	-	-212
01-MAY-00 – M. Grigore	6.1.7	SCR 5059: Changed nomenclature to KCPB, updated Transmit Interval for label 271, section 6.1.7.15. Added content to section 6.1.7.14, Key Press/Display Mode data and deleted FUTURE.	-212	-212
26-MAY-00 – M. Henderson	6.1.7.14	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
28-JUN-00 – Gary Boyd	6.1.7...	Corrected Section headings from 6.1.7 on.	-	-
03-OCT-00 – Gary Boyd		SCR 5494: Added new labels for KC10	-213	-213
	6.1.2.2	Added VIA-GP to source note for Label 370. Added note saying the SDI usage is defined by the configuration.		
	6.1.2.6	Added MDA for VIA-GP, Label 365		
	6.1.3.2.5	Added Landing Altitude, Label 127		
	New 6.1.7.7.6	Added definition for KC10 EFIS Word 1, Label 272.		
	New 6.1.7.7.7	Added definition for KC10 EFIS Word 2, Label 273.		
08-JAN-01	6.1.3.4	SCR 5657: Document cleanup.	-	-
22-JAN-01 – Gary Boyd	6.1.2.2 6.1.2.6 6.1.7.7.6 6.1.3.2.5 6.1.7.7.1	SCR 5746: Document only changes. Clarified SDI usage. Changed “Source” to “VIA-GP” Indicated that bits 11-14 & 28 aren’t defined for KC10	-213	-213
25-JAN-01 – Gary Boyd	6.1.7.5	SCR 5305: Updated to make equivalent to the MKV ICD section 4.1.1.92	-	-
12-FEB-00 – F.Trowbridge	All	SCR 5657: Because of recurrent section numbering problems with this document, changed all level 4 and deeper section numbers from automatic numbering to hand-typed text numbers.		
15-FEB-01 – S. Wright	6.1.2.7, 6.1.3.2.5, 6.1.7.7.6	SCR 5746: Added label identity to title (doc only)	-213	-213
27-Sep-01 – M. Henderson	6.1.7.3	SCR 6149: Changed Data Type of 6.1.7.3 to “Honeywell Discrete.”	-214	-214
05-OCT-01 – G. Ostrom	6.1.6.44	SCR 6364: Added definition for GPS Measurement Status.	-214	-214
28-NOV-01 – N Paterson	All	SCR 6053: General cleanup		
12-MAR-02 – M. Henderson	6.1.7.7.6	SCR 6654: In 6.1.7.7.6, added CENTER/ EXPANDED bit.	-216	-216
03-APR-02 – G. Ostrom	6.1.7.5	SCR 6820: Added note 2 to 6.1.7.5.	-	-216
17-JUN-02 – Gary Boyd	6.1.4.2.2	SCR 6608: Hide text for Type 2 note since it is not configured in MK7.	-	-
17-JAN-03 – Gary Boyd	6.1.7.11	SCR 7368: Added display mode bit assignments to SCI Mode/Range	-217	-217
27-JUN-03 – M. Henderson	6.1.7.11.1	SCR 7604: Added label FF for scan bit.	-218	-218

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
18-AUG-03 – M. Henderson	6.1.6.17 6.1.6.20	SCR 7653: Updated LSB and removed sign bit information from 6.1.17 and 6.1.20.	-218	-218
01-NOV-05 – M. Henderson	6.1.6.45	SCR 8414: Added FMS-RNP (label 106) to support VSD.	-	-
09-FEB-06 – L. Caldeira	6.1.7.7.6	SCR 8501: Doc only change to update section to reflect all bit definitions.	-224	-224
16-FEB-06 – E. Wilmot	6.1.6.45	SCR 8414: Backed out all associated changes. Changed effectivity of associated, previous audit trail entry.	-	-
10-MAR-06 – M. Calhoun	6.1.3.2.1 6.1.3.2.2	SCR 8201: Doc only change to add ± to range definition.	-	-
25-MAY-06 – A. Lowe	Added 6.1.2.7, 6.1.2.8, 6.1.17.1, 6.1.17.2, 6.1.18.	SCR 8686: Added sections 6.1.2.7, 6.1.2.8, 6.1.17.1, 6.1.17.2, 6.1.18 for new digital data sets as follows: Decision Height, MDA Format 3, PFD Mode Select Word Type 6, PFD Mode Select Word 3 Label 176, and FCC Mode Word 2 Type 2.	-226	-226
01-JUN-06 – A. Lowe	6.1.17.2	SCR 8686: Removed starred (*) note for bits 18-24.	-226	-226
05-JUN-06 – L Ngo	6.1.6.45	SCR 8522: Added FMS-RNP label 106 for VSD.	-226	-226
19-JUN-06 – L Ngo	6.1.6.R45	SCR 8522: (Doc Only) Added Note referencing -226.	-226	-226
18-AUG-06 – H. Asha Nand	6.1.7.7.3	SCR 8760: General Document cleanup.	-	-

This appendix defines the input signal characteristics or data word formats for signals commonly used in MK VII EGPWS applications. Many signals defined in this appendix are not in current use and the signal definition is provided only for reference in designing future applications. See Section 5 for specific information on signal usage.

6.1 Digital Data, ARINC 429, RS-422, RS-232

The MK VII EGPWC supports 8 ARINC 429 digital receivers used to monitor broadcast data from other LRUs and to support interactive protocols. Each receiver channel follows the characteristics of reference document Digital Information Transfer System (DITS), ARINC Characteristic 429.

Transmission System Interconnect. Each 429 receiver shall be connected to an ARINC 429 transmitter by means of a single twisted and shielded pair of wires. The shield shall be grounded at both ends and at all production breaks in the cable to an aircraft ground close to the rack connector.

Receiver Bus Frequency. Each 429 receiver is capable of operating at both Low and High speed. The following table identifies the bus speed characteristics.

Bus Speed	Bus Frequency
High	100 KBPS +/- 1%
Low	12.0 KBPS to 14.5 KBPS +/- 1%

ARINC Receiver Bus Identification. Each ARINC Receiver Channel is identified with two identifiers, one for each leg of the twisted wire pair. The identifier is formed as follows:

RX429[Channel Id][Leg] where Channel Id ranges [1-8], and Leg is A for the positive leg and B for the negative leg. An example of a channel identifier would be RX429-7A, which identifies leg A of ARINC 429 channel 7.

In addition, two of the ARINC 429 channels are connected to UARTs to provision for RS422 operation. The UART can also be used to interface to RS-232 data from an internal or external GPS source. The details of these interfaces are in the applicable subsection below.

SIGN/STATUS Matrix The number of BITS, and the meaning of these BITS, varies depending on the type of data in the ARINC word.

BINARY (BNR) DATA					
BIT 31	BIT 30	DEFINITION		BIT 29	DEFINITION
0	0	Failure Warning		0	Plus, North, East,
0	1	No Computed Data (NCD)			Right, To, Above
1	0	Functional Test		1	Minus, South, West,
1	1	Normal Operation			Left, From, Below

BINARY CODED DECIMAL (BCD) DATA		
BIT 31	BIT 30	DEFINITION
0	0	Plus, North, East, Right, To, Above
0	1	No Computed Data (NCD)
1	0	Functional Test
1	1	Minus, South, West, Left, From, Below

Unless identified as using the Honeywell Discrete definition all data indicated as 'Discrete' uses the following SSM definition. (Note that PWS uses a non-standard SSM format as described in section 6.1.7.8.)

DISCRETE DATA		
BIT 31	BIT 30	DEFINITION
0	0	Normal Operation
0	1	No Computed Data NCD
1	0	Functional Test
1	1	Not Used

Data identified as Honeywell Discrete uses the SSM definition below.

HONEYWELL DISCRETE DATA		
BIT 31	BIT 30	DEFINITION
0	0	Normal Operation
0	1	No Computed Data NCD
1	0	Functional Test
1	1	Failure Warning

ISO 5 ALPHABET

Some ARINC 429 labels transmit data using the ISO 5 alphabet as defined in the following table.

B4	B3	B2	B1	0 0 0	0 0 1	0 1 0	0 1 1	1 0 0	1 0 1	1 1 0	1 1 1
0	0	0	0	NUL		SP	0		P	MCDU MENU	SEL1
0	0	0	1	CNTRL	DC1	!	1	A	Q	PROG	SEL2
0	0	1	0	STX	DC2	“	2	B	R	PERF	SEL3
0	0	1	1	ETX	DC3	#	3	C	S	INIT	SEL4
0	1	0	0	EOT	DC4		4	D	T	DATA	SEL5
0	1	0	1	ENQ	NAK	%	5	E	U	FPLN	SEL6
0	1	1	0	ACK	SYN	&	6	F	V	RAD NAV	
0	1	1	1			‘	7	G	W	FUEL PRED	NEXT PAGE
1	0	0	0	CLEAR	LOGOFF	(	8	H	X	SEL F-PLN	SER1
1	0	0	1	EVENT		)	9	I	Y	SPARE	SER2
1	0	1	0			*	:	J	Z		SER3
1	0	1	1			+	;	K	[		SER4
1	1	0	0		DEGREE SYMBOL	,	<	L	\		SER5
1	1	0	1	<CR>	BOX	-	=	M	]		SER6
1	1	1	0		↓	.	>	N	↑	TRI-ANGLE	
1	1	1	1		→	/	?	O	←	DIA-MOND	

6.1.1 Angle of Attack/Flaps

6.1.1.1 Angle of Attack

6.1.1.1.1 Angle of Attack - Corrected (222)

ANGLE OF ATTACK – CORRECTED			Source: DSWC
LABEL (Octal) 222	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.0439 Degree
Data Bits: 17 to 28 = 12	+ = Nose Up	Sign Bit: 29	Pad Bits: 11 to 16
Transmit Interval (mSec): 50 to 100	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.1.1.2 Angle of Attack - Indicated (221)

ANGLE OF ATTACK INDICATED			Source: DSWC
LABEL (Octal) 221	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.0439 Degree
Data Bits: 17 to 28 = 12	+ = Nose Up	Sign Bit: 29	Pad Bits: 11 to 16
Transmit Interval (mSec): 50 to 100	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.1.1.3 Angle of Attack - Stick Shaker (241)

ANGLE OF ATTACK - STICK SHAKER			Source: DSWC
LABEL (Octal) 241	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.0439
Data Bits: 17 to 28 = 12	+ = Nose Up	Sign Bit: 29	Pad Bits: 11 to 16
Transmit Interval (mSec): 50 to 100	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.1.2 Flaps

6.1.1.2.1 Flap Angle (137)

FLAP ANGLE			Source: DSWC/ FSEU
LABEL (Octal) 137	Units: Degrees/180	Max. Range: ±180 Degrees	Approx. LSB: 0.0439 Degree
Data Bits: 17 to 28 = 12	+ = Flap Setting	Sign Bit: 29	Pad Bits: 11 to 16
Transmit Interval (mSec): See NOTE	Data Type: 2's Complement Binary		SDI Bits: 9, 10

NOTE: ARINC 429 Specified Transmit Interval = 100 to 200 mSec for this label.
DSWC Specified Transmit Interval = 500 mSec for this label.
The EGPWC will function normally, and without a fault indication for Transmit Intervals up to 500 mSec.

6.1.2 Radio Altitude

6.1.2.1 Radio Altitude (164)

RADIO ALTITUDE			Source: ARINC 707 LRRA
LABEL (Octal) 164	Units: Feet	Max. Range: ± 8,192 Feet	Approx. LSB: 0.125 Foot
Data Bits: 13 to 28 = 16	+ = Above Sea Level (ASL)	Sign Bit: 29	Pad Bits: 11, 12
Transmit Interval (mSec): 25 to 50	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.2.2 Decision Height Selected - Common Scaling (370)

DECISION HEIGHT SELECTED - COMMON SCALING			Source: See NOTE (1)
LABEL (Octal) 370	Units: Feet	Max. Range: ± 16,384 Feet	Approx. LSB: 0.125 Foot
Data Bits: 12 to 28 = 17	+ = Above Ground Level (AGL)	Sign Bit: 29	Pad Bits: 11
Transmit Interval (mSec): 100 to 200	Data Type: 2's Complement Binary		See NOTE (2) SDI Bits: 9, 10 10/9 = 01 = left 10/9 = 10 = right

NOTES: (1) Source = EFIS/ IOC/ DAU/VIA-GP
(2) SDI usage is defined by the channel configuration,
FORMAT 1, uses SDI (00),
FORMAT 2, uses only left SDI (01)

6.1.2.3 Decision Height Selected - EFS 40/50 Scaling (045)

DECISION HEIGHT SELECTED - EFS 40/50 SCALING			Source: EFS 40/50
LABEL (Octal) 045	Units: Feet	Max. Range: -4 to 32767	Approx. LSB: 8 Feet
Data Bits: 17 to 28 = 12	+ = Above Ground Level (AGL)	Sign Bit: 29	Pad Bits: 9 to 16
Transmit Interval (mSec): 100	Data Type: 2's Complement Binary		SDI Bits: N/A

6.1.2.4 DH/MDA Selected - DAU Scaling (170)

DH/MDA SELECTED - DAU SCALING				Source: DAU
LABEL (Octal) 170	Units: Feet	Max. Range(for DH): 0 - 4096 Feet	Max. Range(for MDA): 0 - 16,384 Feet	Approx. LSB: 1 Foot
Data Bits(for DH): 17 to 28 = 12	Data Bits(for MDA): 15 to 28 = 14	+ = Above Ground Level (AGL)	Sign Bit: 29	Pad Bits: 11
Transmit Interval (mSec): 1000	Data Type: 2's Complement Binary / Discrete			SDI Bits: 9, 10

NOTES: If Signal Displayed Bit 13=1, MDA selected is mapped to bit 14.
SSM for this word uses the discrete word format

6.1.2.5 Decision Height Selected - EFIS/ISDAS (012)

DECISION HEIGHT SELECTED			Source: EFIS (ISDAS)
LABEL (Octal) 012	Units: Feet	Max. Range: -512 to +511	Approx. LSB: 1.0 Feet
Data Bits: 21 to 29 = 9	+ = Above Ground Level (AGL)	Sign Bit: 30	Pad Bits: 9 to 20
Transmit Interval (mSec): 1000	Data Type: 2's Complement Binary Note: This input definition was completely revised in the –212-212 part number. The data package does not include an SSM. It uses bit 30 as the sign bit instead of the typical bit 29.		SDI Bits: N/A

6.1.2.6 Minimum Descent Altitude (365)

MINIMUM DESCENT ALTITUDE			Source: see NOTE (1)
LABEL (Octal) 365	Units: Feet	Max. Range: ± 16,384 Feet	Approx. LSB: 0.125 Feet
Data Bits: 12 to 28 = 17	+ = Above Sea Level (ASL)	Sign Bit: 29	Pad Bits: 11
Transmit Interval (mSec): 100 to 200	Data Type: 2's Complement Binary		see NOTE (2) SDI Bits: 9, 10 10/9 = 01 = left 10/9 = 10 = right

NOTES: (1) Source VIA-GP
(2) SDI usage is defined by the channel configuration,
FORMAT 1, uses SDI (00),
FORMAT 2, uses only left SDI (01)

6.1.2.7 Decision Height Selected - IOC Scaling

DECISION HEIGHT SELECTED - IOC SCALING			Source: See NOTES
LABEL (Octal) 370	Units: Feet	Max. Range: ± 8,192 Feet	Approx. LSB: 0.125 Foot
Data Bits: 13 to 28 = 16	+ = Above Ground Level (AGL)	Sign Bit: 29	Pad Bits: 11, 12
Transmit Interval (mSec): 100 to 200	Data Type: 2's Complement Binary		SDI Bits: 9, 10

NOTES: SOURCE is IOC. The EGPWS uses bit 16 as the LSB, giving 1 foot resolution, bits 11-15 are Pad Bits. This label can be provided in a configuration with a single DH input or in conjunction with a selected MDA input. For those configurations which provide DH and MDA on separate labels, format 3 applies (Format 1 is 0/0 SDI used, Format 2 is Left SDI used, Format 3 is No SDI.). Some IOC configurations may only provide positive ranges (0 to +8,192 Feet), however the EGPWS supports both positive and negative ranges (± 8,192 Feet) for all configurations.

6.1.2.8 Minimum Descent Altitude – Proline 21/Proline 4 IOC Scaling

This label added for the 965-1076-XXX-226-226 part number.

FORMAT 3: No SDI

MINIMUM DESCENT ALTITUDE - IOC SCALING			Source: IOC
LABEL (Octal) 170 or 371 See NOTE 2	Units: Feet	Max. Range: ± 65,536 Feet See NOTE 1	Approx. LSB: 1 Feet
Data Bits: 13 to 28 = 16	+ = Above Sea Level (ASL)	Sign Bit: 29	Pad Bits: 9 to 12
Transmit Interval (mSec): 200	Data Type: 2's Complement Binary		SDI Bits: N/A

NOTE 1: Some IOC configurations may only provide positive ranges (0 to +65,536 Feet), however the EGPWS supports both positive and negative ranges (± 65,536 Feet) for all configurations.

NOTE 2: Some configurations transmit the MDA information on Label 371.

6.1.3 Air Data

6.1.3.1 Barometric Altitude Rate

6.1.3.1.1 Barometric Altitude Rate (212)

BAROMETRIC ALTITUDE RATE			Source: ARINC 706 DADC (or DAU)
LABEL (Octal) 212	Units: Feet/Minute	Max. Range: ± 32,768 Ft/Min	Approx. LSB: 16 Ft/Min
Data Bits: 18 to 28 = 11	+ = Ascent	Sign Bit: 29	Pad Bits: 11 to 17
Transmit Interval (mSec): 31.3 to 62.5 (50 if DAU)	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.3.1.2 Vertical Velocity (165)

VERTICAL VELOCITY – GPS			Source: ARINC 743 GPSSU
LABEL (Octal) 165	Units: Feet/Minute	Max. Range: ± 32,768 Ft/Min	Approx. LSB: 1 Foot/Minute
Data Bits: 14 to 28 = 15	+ = Ascent	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.3.1.3 Inertial Vertical Speed (365)

INERTIAL VERTICAL SPEED			Source: ARINC 704 IRS/ AHRS
LABEL (Octal) 365	Units: Feet/Minute	Max. Range: ± 32,768 Ft/Min	Approx. LSB: 1 Foot/Min
Data Bits: 14 to 28 = 15	+ = Ascent	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 20 to 40	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.3.2 Barometric Altitude

6.1.3.2.1 Corrected Barometric Altitude (204/251)

CORRECTED BAROMETRIC ALTITUDE (See NOTE)		Source: ARINC 706 DADC (or DAU)	
LABEL (Octal) 204/251	Units: Feet	Max. Range: ± 131,072 Feet	Approx. LSB: 1 Foot
Data Bits: 12 to 28 = 17	+ = Above Sea Level (ASL)	Sign Bit: 29	Pad Bits: 11
Transmit Interval (mSec): 31.3 to 62.5 (50 if DAU)	Data Type: 2's Complement Binary		SDI Bits: 9, 10

NOTE: Correction may be QNH or QFE. For QFE operators both Label 204 and 251 may be defined on the same bus, if so then one of the two will be called Corrected Altitude, the other QNH Corrected Altitude.

6.1.3.2.2 FMS Corrected Barometric Altitude (204)

CORRECTED BAROMETRIC ALTITUDE		Source: FMS	
LABEL (Octal) 204	Units: Feet	Max. Range: ± 131,072 Feet	Approx. LSB: 1 Foot
Data Bits: 12 to 28 = 17	+ = Above Sea Level (ASL)	Sign Bit: 29	Pad Bits: 11
Transmit Interval (mSec): 100	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.3.2.3 Uncorrected Barometric Altitude (203)

UNCORRECTED BAROMETRIC ALTITUDE		Source: ARINC 706 DADC/ AIMS GP BUS #3 (or DAU)	
LABEL (Octal) 203	Units: Feet	Max. Range: ± 131,072 Feet	Approx. LSB: 1 Foot
Data Bits: 12 to 28 = 17	+ = Above Sea Level (ASL)	Sign Bit: 29	Pad Bits: 11
Transmit Interval (mSec): 31.3 to 62.5 (50 if DAU)	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.3.2.4 Inertial Altitude (361)

INERTIAL ALTITUDE		Source: ARINC 704 IRS/ AHRS	
LABEL (Octal) 361	Units: Feet	Max. Range: ± 131,072 Feet	Approx. LSB: 0.125 Foot
Data Bits: 9 to 28 = 20	+ = Above Sea Level (ASL)	Sign Bit: 29	Pad Bits: None
Transmit Interval (mSec): 20 to 40	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.3.2.5 Landing Altitude (127)

LANDING ALTITUDE		Source: VIA-GP BUS	
LABEL (Octal) 127	Units: Feet	Max. Range: ± 65,536 Feet	Approx. LSB: 1 Foot
Data Bits: 13 to 28 = 16	+ = Above Sea Level (ASL)	Sign Bit: 29	Pad Bits: 11, 12
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.3.3 Airspeed

6.1.3.3.1 Computed Airspeed (206)

COMPUTED AIRSPEED		Source: ARINC 706 DADC (or DAU)	
LABEL (Octal) 206	Units: Knots	Max. Range: 1,024 Knots	Approx. LSB: 0.0625 Knot
Data Bits: 15 to 28 = 14	+ = Forward	Sign Bit: 29	Pad Bits: 11 to 14
Transmit Interval (mSec): 62.5 to 125 (100 if DAU)	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.3.3.2 True Airspeed (210)

TRUE AIRSPEED		Source: ARINC 706 DADC (or DAU)	
LABEL (Octal) 210	Units: Knots	Max. Range: ± 2,048 Knots	Approx. LSB: 0.0625 Knot
Data Bits: 14 to 28 = 15	+ = Forward	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 62.5 to 125 (50 if DAU)	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.3.4 Air Temperature

6.1.3.4.1 Static Air Temperature (213)

STATIC AIR TEMPERATURE			Source: ARINC 706 DADC
LABEL (Octal) 213	Units: Degrees Celsius	Max. Range: 512 Degrees C.	Approx. LSB: 0.25 Degree
Data Bits: 18 to 28 = 11	+ = Above ZERO	Sign Bit: 29	Pad Bits: 11 to 17
Transmit Interval (mSec): 250 to 500	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.3.4.2 True Air Temperature (211)

TRUE AIR TEMPERATURE			**Source: DAU**
LABEL (Octal) 211	Units: Degrees Celsius	Max. Range: 512 Degrees C.	Approx. LSB: 0.25 Degree
Data Bits: 18 to 28 = 11	+ = Above ZERO	Sign Bit: 29	Pad Bits: 11 to 17
Transmit Interval (mSec): 200	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.4 Attitude/Acceleration

6.1.4.1 Attitude

6.1.4.1.1 Attitude Mode (270)

ATTITUDE MODE			Source: ARINC 704 IRS, AHRS
LABEL (Octal) 270	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: BIT 12 (See NOTE)	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 250 to 500	Data Type: Discrete		SDI Bits: N/A

NOTE: A "1" in Bit Position 12 indicates that the IRS is operating in "ATTITUDE MODE".

6.1.4.1.2 Pitch Angle (324)

PITCH ANGLE			Source: ARINC 704 IRS/ AHRS
LABEL (Octal) 324	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.01099 Deg
Data Bits: 15 to 28 = 14	+ = Nose Up	Sign Bit: 29	Pad Bits: 11 to 14
Transmit Interval (mSec): 10 to 20	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.4.1.3 Pitch Angle A/B - MD80(002)

PITCH ANGLE			Source: DFGC bus
LABEL (Octal) Pitch A: 002 (L) Pitch B: 002 (H)	Units: Degrees	Max. Range: -44.99968 to 44.91179 degrees	LSB: 0.08789 Deg
Data Bits: Pitch A: 11-19 = 9 Pitch B: 21-29 = 9	+ = Nose Up	Sign Bit: Pitch A: 20 Pitch B: 30	Pad Bits: 9, 10, 31
Transmit Interval (mSec): 100	Data Type: 1's Complement Binary		SDI Bits: N/A

6.1.4.1.4 Body Pitch Rate (326)

BODY PITCH RATE			Source: ARINC 704 IRS/ AHRS
LABEL (Octal) 326	Units: Degrees/Second	Max. Range: ± 128 Deg/Sec	Approx. LSB: 0.0156 Deg/Sec
Data Bits: 16 to 28 = 13	+ = Nose Up	Sign Bit: 29	Pad Bits: 11 to 15
Transmit Interval (mSec): 10 to 20	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.4.1.5 Roll Angle (325)

ROLL ANGLE			Source: ARINC 704 IRS/ AHRS/ GPS
LABEL (Octal) 325	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.01099 Deg
Data Bits: 15 to 28 = 14	+ = Right Wing Down	Sign Bit: 29	Pad Bits: 11 to 14
Transmit Interval (mSec): 10 to 36	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.4.1.6 Roll Angle A/B - (45 degree range) MD80(306)

ROLL ANGLE		Source: DFGC bus	
LABEL (Octal) Roll A: 306 (L) Roll B: 306 (H)	Units: Degrees	Max. Range: -44.99968 to 44.91179 degrees	LSB: 0.08789 Deg
Data Bits: Roll A: 11-19 = 9 Roll B: 21-29 = 9	+ = Right Wing Down	Sign Bit: Roll A: 20 Roll B: 30	Pad Bits: 9, 10, 31
Transmit Interval (mSec): 100	Data Type: 1's Complement Binary		SDI Bits: N/A

6.1.4.1.7 Roll Angle (full range) - MD80(001)

ROLL ANGLE		Source: SG ISDAS bus	
LABEL (Octal) 001 H	Units: Degrees	Max. Range: -180 to +180 degrees	LSB: 0.351563 Deg
Data Bits: 21-29 = 9	+ = Right Wing Down	Sign Bit: 30	Pad Bits: 9, 10, 31
Transmit Interval (mSec): 1000	Data Type: 1's Complement Binary		SDI Bits: N/A

6.1.4.1.8 Body Roll Rate (327)

BODY PITCH RATE		Source: ARINC 704 IRS/ AHRS	
LABEL (Octal) 327	Units: Degrees/Second	Max. Range: ± 128 Deg/Sec	Approx. LSB: 0.0156 Deg/Sec
Data Bits: 16 to 28 = 13	+ = Right Wing Down	Sign Bit: 29	Pad Bits: 11 to 15
Transmit Interval (mSec): 10 to 20	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.4.2 Acceleration

6.1.4.2.1 Body Longitudinal Acceleration (331)

BODY LONGITUDINAL ACCELERATION		Source: ARINC 704 IRS/ AHRS	
LABEL (Octal) 331	Units: g's	Max. Range: ± 4.0 g's	Approx. LSB: 0.000977 g's
Data Bits: 17 to 28 = 12	+ = Forward	Sign Bit: 29	Pad Bits: 11 to 16
Transmit Interval (mSec): 10 to 20	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.4.2.2 Body Normal Acceleration (333)

6.1.4.1.1.1 BODY NORMAL ACCELERATION		Source: See NOTE	
LABEL (Octal) 333	Units: g's	Max. Range: ± 4.0 g's	Approx. LSB: 0.000977 g's
Data Bits: 17 to 28 = 12	+ = Up See NOTE	Sign Bit: 29	Pad Bits: 11 to 16
Transmit Interval (mSec): 10 to 20	Data Type: 2's Complement Binary		SDI Bits: 9, 10

NOTE: For Source = ARINC 704 IRS or AHRS - Output reads 0 g's nominal when aircraft is on the ground, or during unaccelerated level flight. This type is identified as type 1.

6.1.5 Navigation, Radio

6.1.5.1 Glideslope Deviation (174)

GLIDESLOPE DEVIATION		Source: ARINC 710 ILS/ ARINC 727 MLS/IAC	
LABEL (Octal) 174	Units: See NOTE	Max. Range: ± 0.8 DDM	Approx. LSB: 0.000195 DDM
Data Bits: 17 to 28 = 12	+ = Fly Down = Above Beam C/L	Sign Bit: 29	Pad Bits: 11 to 16
Transmit Interval (mSec): 33.3 to 66.6 115 ms max for IAC	Data Type: 2's Complement Binary		SDI Bits: 9, 10

NOTE: Units = Difference in Depth of Modulation (DDM) 0.0875 DDM = 1 'Dot'.

Honeywell SSM format: If tuned to ILS the SSM is set F/W for either non-capture or internal receiver failure. With this type of input F/W will not activate GPW INOP but will inhibit all Glideslope Alerts and be recorded in fault history.

6.1.5.2 Localizer Deviation (173)

LOCALIZER DEVIATION			Source: ARINC 710 ILS/ ARINC 727 MLS/ DAA/IAC
LABEL (Octal) 173	Units: See NOTE	Max. Range: ± 0.4 DDM	Approx. LSB: 0.0000977 DDM
Data Bits: 17 to 28 = 12	+ = Fly RIGHT = Left of Beam C/L	Sign Bit: 29	Pad Bits: 11 to 16
Transmit Interval (mSec): 33.3 to 66.6 115 ms max for IAC	Data Type: 2's Complement Binary		SDI Bits: 9, 10

NOTE: Units = Difference in Depth of Modulation (DDM) 0.0775 DDM = 1 'Dot'.

6.1.5.3 VOR/ILS Frequency (034)

VOR/ILS Frequency			Source: ARINC 710 ILS/ DAA
LABEL (Octal) 034	Units: MHz	Max. Range: 108 - 117.95MHz	Approx. LSB: 10 kHz
Data Bits: See NOTE	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 167 to 333	Data Type: Binary Coded Decimal (BCD)		SDI Bits: 9, 10

NOTE: This input is used to indicate if the VOR/ILS receiver is tuned to an ILS frequency, or to a VOR frequency. BIT #14 will be set to a '0' for all VOR frequencies, and to a '1' for all ILS frequencies, by the tuning information source.

6.1.6 Position

6.1.6.1 Altitude - GPS (MSL) (076)

ALTITUDE – GPS (MSL)			Source: ARINC 743 GPSSU
LABEL (Octal) 076	Units: Feet	Max. Range: 131,072 Feet	Approx. LSB: 0.125 Foot
Data Bits: 9 to 28 = 20	+ = Up	Sign Bit: 29	Pad Bits: None
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: None

6.1.6.2 Date (260)

DATE	Source: [AIRBUS] - ARINC 604 CFDS/ CMC/ [GPS] - ARINC 743 GPSSU		
LABEL (Octal) 260	Units: Day:Month:Year	Max. Range: N/A	Approx. LSB: 1 Day
Data Bits: 11 to 29 = 19 See NOTE 1	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 1000 Maximum	Data Type: See NOTE 2		SDI Bits: 9, 10

NOTE 1: BITS 11 to 14 (4) = UNITS of the YEAR (0 to 9)
BITS 15 to 18 (4) = TENS of the YEAR (0 to 9)
BITS 19 to 22 (4) = UNITS of the MONTH (0 to 9)
BIT 23 (1) = TENS of the MONTH (0 or 1)
BITS 24 to 27 (4) = UNITS of the DAY (0 to 9)
BITS 28 to 29 (2) = TENS of the DAY (0 to 3)

NOTE 2: Honeywell Discrete for CAIMS, Binary Coded Decimal (BCD) for all other sources

6.1.6.3 Destination Latitude (144)

Destination Latitude			Source: FMC
LABEL (Octal) 144	Units: Degrees	Max. Range: ± 180 Degrees	Approx. LSB: 0.000172 Deg
Data Bits: 9 to 28 = 20	+ = North	Sign Bit: 29	Pad Bits: None
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.4 Destination Longitude (143)

Destination Longitude			Source: FMC
LABEL (Octal) 143	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.00017166 Deg
Data Bits: 9 to 28 = 20	+ = East	Sign Bit: 29	Pad Bits: None
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: None

6.1.6.5 Discrete Word - MD80(307/027)

DISCRETE WORD			Source: DFGC bus
LABEL (Octal) Validity Attitude/Heading A: 307 Validity Attitude/Heading B: 027	Units: N/A	Max. Range: N/A	LSB: N/A

Data Bit: Attitude Validity: #11 Heading Validity: #16	1 = valid	Sign Bit: N/A	Pad Bits: 9, 10, 29, 30, 31
Transmit Interval (mSec): 1000	Data Type: Discrete		SDI Bits: N/A

6.1.6.6 FMS Discrete Words

6.1.6.6.1 FMS Discrete Word - Type 1 (270)

FMS Nav Mode - Type 1			Source: FMC	
LABEL (Octal) 270	Units: N/A	Max. Range: N/A		Approx. LSB: N/A
Data Bits: 11 to 14: See TABLE	+ = N/A		Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 180 ms	Data Type: Discrete			SDI Bits: 9, 10

BIT ASSIGNMENTS

NAV Mode	Bit 14	Bit 13	Bit 12	Bit 11
Dead Reckoning	-	0	0	0
VOR/DME	-	0	0	1
Inertial Only	-	0	1	0
DME/DME	-	0	1	1
GPS	-	1	0	0
NAV Accuracy High	1			
NAV Accuracy Low	0			

6.1.6.6.2 FMS Discrete Word - Type 2 (266)

FMS Nav Mode - Type 2			Source: FMC/IOC	
LABEL (Octal) 266 (or 302, see Note 1)	Units: N/A	Max. Range: N/A		Approx. LSB: N/A
Data Bits: 15 to 18: See TABLE	+ = N/A		Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 500 ms	Data Type: Discrete			SDI Bits: 9, 10

Note 1: Label 302 may be used when source is IOC

BIT ASSIGNMENTS

NAV Mode	Bit 18	Bit 17	Bit 16	Bit 15
Dead Reckoning	0	0	0	
GPS	0	0	1	
Inertial Only	0	1	0	
VLF/Omega	0	1	1	
VOR/DME	1	0	0	
VLF/Omega/Inertial	1	0	1	
DME/DME	1	1	0	
No Nav	1	1	1	
NAV Accuracy High				1
NAV Accuracy Low				0

For FMS Discrete Word - Type 2, bit 15 indicates high or low navigation accuracy and is set independently of the navigation mode, bits 16 - 18. The FMS sets bit 15 (high accuracy) if the estimated error of the FMS position is less than the phase of flight position accuracy tolerance listed in the following table. Otherwise the FMS resets bit 15 (low accuracy).

NAVIGATION ACCURACY

PHASE OF FLIGHT	ACCURACY TOLERANCE
Approach	0.5 nm
Terminal	0.5 nm
Enroute	FMS not in Degrade
Oceanic	FMS not in Degrade

6.1.6.6.3 FMS Discrete Word - Type 3 (270)

FMS Nav Mode - Type 3			Source: FMC
LABEL (Octal) 270	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: 11 to 14 and 16 (See table)	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 180 ms	Data Type: Discrete		SDI Bits: 9, 10

Raw NAV Mode	**Equivalent NAV Mode**	Bit 16	Bit 14	Bit 13	Bit 12	Bit 11
No Nav	No Nav	-	0	0	0	0
VOR/DME	VOR/DME	-	0	0	0	1
Inertial Only	Inertial Only	-	0	0	1	0
DME/DME	DME/DME	-	0	0	1	1
GPS	GPS	-	0	1	0	0
VOR/LOC	VOR/DME	-	0	1	0	1
LOC	Inertial Only	-	0	1	1	0
DME/LOC	DME/DME	-	0	1	1	1
GPS/LOC	GPS	-	1	0	0	0
VOR/MLS	VOR/DME	-	1	0	0	1
MLS	Inertial Only	-	1	0	1	0
DME/MLS	DME/DME	-	1	0	1	1
GPS/MLS	GPS	-	1	1	0	0
NAV Accuracy High		1				
NAV Accuracy Low		0				

6.1.6.7 GPS Horizontal Integrity Limit (130)

GPS Horizontal Integrity Limit			Source: ARINC 743A GPS
LABEL (Octal) 130	Units: Nautical Miles	Max. Range: 16	Approx. LSB: 0.00012207
Data Bit: 12 - 28 (see table below) = 17	+ = always positive	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 1000 ms	Data Type: BNR + discrete		SDI Bits: 9, 10

BIT ASSIGNMENT GPS HIL

Bit	Definition
11	Set to 1 whenever the receivers RAIM detects a non-isolatable satellite failure (NISF), set to 0 otherwise
12 - 28	Integrity limit in nautical miles

6.1.6.8 Groundspeed (312)

GROUNDSPEED			Source: ARINC 704 IRS/ AHRS/ ARINC 702 FMS/IOC
LABEL (Octal) 312	Units: Knots	Max. Range: 4,096 Knots	Approx. LSB: 0.125 Knot
Data Bits: 14 to 28 = 15	+ = Forward	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 25 to 50	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.9 Groundspeed - GPS (112)

GROUNDSPEED – GPS			Source: ARINC 743 GPSSU
LABEL (Octal) 112	Units: Knots	Max. Range: 4,096 Knots	Approx. LSB: 0.125 Knot
Data Bits: 14 to 28 = 15	+ = Forward	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.10 Horizontal Dilution Of Precision - GPS (HDOP) (101)

HORIZONTAL DILUTION OF PRECISION (HDOP)			Source: ARINC 743 GPSSU
LABEL (Octal) 101	Units: N/A	Max. Range: 1,024	Approx. LSB: 0.03125
Data Bits: 14 to 28 = 15	+ = N/A	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.11 Horizontal Figure Of Merit - ARINC 743A GPS (247)

HORIZONTAL FIGURE OF MERIT – GPS			Source: ARINC 743A GPSSU
LABEL (Octal) 247	Units: Nautical Miles	Max. Range: 16 NM'S	Approx. LSB: 0.000061035
Data Bits: 11 to 28 = 18	+ = N/A	Sign Bit: 29	Pad Bits: N/A
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.11.1 Horizontal Figure Of Merit - ARINC 743 GPS (247)

HORIZONTAL FIGURE OF MERIT – GPS			Source: ARINC 743 GPSSU
LABEL (Octal) 247	Units: Meters	Max. Range: 1,024	Approx. LSB: 0.03125
Data Bits: 14 to 28 = 15	+ = N/A	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.12 Reserved

6.1.6.13 Inertial Vertical Acceleration (364)

INERTIAL VERTICAL ACCELERATION			Source: ARINC 704 IRS
LABEL (Octal) 364	Units: g's	Max. Range: ± 4.0 g's	Approx. LSB: 0.000977 g's
Data Bits: 17 to 28 = 12	+ = Up (See NOTE)	Sign Bit: 29	Pad Bits: 11 to 16
Transmit Interval (mSec): 10 to 20	Data Type: 2's Complement Binary		SDI Bits: 9, 10

NOTE: A nominal value of 0 g's is output while the aircraft is on the ground.

6.1.6.14 Reserved

6.1.6.15 Latitude - Present Position (310)

LATITUDE - PRESENT POSITION			Source: See NOTE 1
LABEL (Octal) 310	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.00017166 Deg
Data Bits: 9 to 28 = 20	+ = North	Sign Bit: 29	Pad Bits: None
Transmit Interval (mSec): See NOTE 2	Data Type: 2's Complement Binary		SDI Bits: None

NOTE 1: Source: ARINC 702 FMS/ ARINC 704 IRS

NOTE 2: ARINC 702 Specified Transmit Interval = 50 to 100 mSec.
ARINC 704 Specified Transmit Interval = 100 to 200 mSec.
The EGPWC will function normally, and without a fault indication for Transmit Intervals up to 500 mSec.

6.1.6.16 Latitude - Normal - GPS (110)

LATITUDE - NORMAL –GPS			Source: ARINC 743 GPSSU
LABEL (Octal) 110	Units: Degrees	Max. Range: ± 180 Degrees	Approx. LSB: 0.000172 Deg
Data Bits: 9 to 28 = 20	+ = North	Sign Bit: 29	Pad Bits: None
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.17 Latitude - Fine - GPS (120)

LATITUDE - FINE –GPS			Source: ARINC 743 GPSSU
LABEL (Octal) 120	Units: Degrees	Max. Range: 0.000172 Deg	Approx. LSB: 8.381903E-8 Deg
Data Bits: 18 to 28 = 11	+ = N/A	Sign Bit: N/A	Pad Bits: 11 to 17
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.18 Longitude - Present Position (311)

LONGITUDE – PRESENT POSITION			Source: See NOTE 1
LABEL (Octal) 311	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.00017166 Deg
Data Bits: 9 to 28 = 20	+ = East	Sign Bit: 29	Pad Bits: None
Transmit Interval (mSec): See NOTE 2	Data Type: 2's Complement Binary		SDI Bits: None

NOTE 1: Source: ARINC 702 FMS/ ARINC 704 IRS

NOTE 2: ARINC 702 Specified Transmit Interval = 50 to 100 mSec.
ARINC 704 Specified Transmit Interval = 100 to 200 mSec.
The EGPWC will function normally, and without a fault indication for Transmit Intervals up to 500 mSec.

6.1.6.19 Longitude - Normal - GPS (111)

LONGITUDE – NORMAL –GPS			Source: ARINC 743 GPSSU
LABEL (Octal) 111	Units: Degrees	Max. Range: ± 180 Degrees	Approx. LSB: 0.000172 Deg
Data Bits: 9 to 28 = 20	+ = East	Sign Bit: 29	Pad Bits: None
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.20 Longitude - Fine - GPS (121)

LONGITUDE - FINE –GPS			Source: ARINC 743 GPSSU
LABEL (Octal) 121	Units: Degrees	Max. Range: 0.000172 Deg	Approx. LSB: 8.381903E-8 Deg
Data Bits: 18 to 28 = 11	+ = N/A	Sign Bit: N/A	Pad Bits: 11 to 17
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.21 Magnetic Heading Angle A/B - MD80(205)

MAGNETIC HEADING ANGLE			Source: DFGC bus
LABEL (Octal) Mag Heading A: 205 (L) Mag Heading B: 205 (H)	Units: Degrees	Max. Range: -180 to +180 degrees	LSB: 0.351563 Deg
Data Bits: Mag Heading A: 11-19 = 9 Mag Heading B: 21-29 = 9		Sign Bit: Mag Heading A: 20 Mag Heading B: 30	Pad Bits: 9, 10, 31
Transmit Interval (mSec): 200	Data Type: 1's Complement Binary		SDI Bits: N/A

Note: For Validity ref section 6.1.6.5

6.1.6.22 Magnetic Heading (320)

MAGNETIC HEADING			Source: ARINC 704 IRS/ AHRS
LABEL (Octal) 320	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.00549 Degrees
Data Bits: 14 to 28 = 15	+ = Clockwise from North	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 25 to 50	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.23 Magnetic Track Angle - IRS/AHRS/GPS (317)

MAGNETIC TRACK ANGLE			Source: ARINC 704 IRS/ AHRS
LABEL (Octal) 317	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.00549 Degrees
Data Bits: 14 to 28 = 15	+ = Clockwise from North	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): See NOTE	Data Type: 2's Complement Binary		SDI Bits: 9, 10

NOTE: ARINC 704 Specified Transmit Interval = 25 to 50 mSec.
The EGPWC will function normally, and without a fault indication for Transmit Intervals up to 65 mSec, to accommodate the AIRBUS FMS.

6.1.6.24 Magnetic Track Angle - FMS (317)

MAGNETIC TRACK ANGLE			Source: ARINC 702 FMS
LABEL (Octal) 317	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.0439 Degrees
Data Bits: 17 to 28 = 12	+ = Clockwise from North	Sign Bit: 29	Pad Bits: 11 to 16
Transmit Interval (mSec): TBD	Data Type: 2's Complement Binary		SDI Bits: 9, 10

NOTE: ARINC 702 Specified Transmit Interval = 25 to 50 mSec.
The EGPWC will function normally, and without a fault indication for Transmit Intervals up to 65 mSec, to accommodate the AIRBUS FMS.

6.1.6.25 Magnetic Variation - GPS (147)

MAGNETIC TRACK ANGLE			Source: GPS
LABEL (Octal) 147	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.0439453 Degrees
Data Bits: 17 to 28 = 12	+ = East	Sign Bit: 29	Pad Bits: 12 to 16
Transmit Interval (mSec): 1000 ms	Data Type: 2's Complement Binary		SDI Bits: 9, 10

NOTE: Universal GPS will pad bits 9-19.

6.1.6.26 Selected Course (BCD) (024)

SELECTED COURSE (BCD)			Source: DAU/ MCP
LABEL (Octal) 024	Units: Degrees	Max. Range: 0 - 359 Deg	Approx. LSB: 1 Degree
Data Bits: 19 to 29 = 11	+ = Clockwise from North	Sign Bit: N/A	Pad Bits: 11 to 18
Transmit Interval (mSec): See NOTE	Data Type: Binary Coded Decimal (BCD)		SDI Bits: 9, 10

NOTE: DAU Transmit Interval = 167 to 333 mSec.
MCP Transmit Interval = 100 to 200 mSec.

6.1.6.27 Selected Course (BNR) (100)

SELECTED COURSE (BNR)			Source: IOC/ MCP
LABEL (Octal) 100	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.08789 Degree
Data Bits: 18 to 28 = 11	+ = Clockwise from North	Sign Bit: 29	Pad Bits: 11 to 17
Transmit Interval (mSec): See NOTE	Data Type: 2's Complement Binary		SDI Bits: 9, 10

NOTE: IOC Transmit Interval = 950 to 1050 mSec.
MCP Transmit Interval = 167 to 333 mSec.

6.1.6.28 Selected Runway Heading (BCD) (017)

SELECTED RUNWAY HEADING (BCD)			Source: ARINC 710 ILS/ ARINC 727 MLS
LABEL (Octal) 017	Units: Degrees	Max. Range: 0 - 359.9 Deg	Approx. LSB: 0.1 Degree
Data Bits: 15 to 29 = 15	+ = Clockwise from North	Sign Bit: N/A	Pad Bits: 11 to 14
Transmit Interval (mSec): 167 to 333	Data Type: Binary Coded Decimal (BCD)		SDI Bits: 9, 10

6.1.6.29 Selected Runway Heading (BNR) (105)

SELECTED RUNWAY HEADING (BNR)			Source: ARINC 710 ILS/ ARINC 727 MLS
LABEL (Octal) 105	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.08789 Degree
Data Bits: 18 to 28 = 11	+ = Clockwise from North	Sign Bit: 29	Pad Bits: 11 to 17
Transmit Interval (mSec): 167 to 333	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.30 Sensor Status - GPS (273)

SENSOR STATUS – GPS			Source: ARINC 743 GPSSU
LABEL (Octal) 273	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: 11 to 29 -= 19 See TABLE	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 1000 Maximum	Data Type: Discrete		SDI Bits: 9, 10

SENSOR STATUS BIT ASSIGNMENTS			
Bit No.	DEFINITION		
11	MSB of Satellites Visible (16 to 31)		
12	DADS Status (*)	Present = ‘0’	Not Present = ‘1’
13	DADS Source (*)	Primary = ‘0’	Secondary = ‘1’
14	IRS/FMS Status	Present = ‘0’	Not Present = ‘1’
15	IRS/FMS Source	Primary = ‘0’	Secondary = ‘1’
16 - 19	Number of Satellites Visible (0 to 15)		
20 - 23	Number of Satellites Tracked (0 to 15)		
24 - 25	Current System in Use	00 = GPS 10 = GLONASS 11 = GPS/GLONASS 01 = Spare	
26 - 28	Operational Mode	000 = Self Test Mode 001 = Initialization Mode 010 = Acquisition Mode 011 = Navigation Mode 100 = Altitude/Clock Aiding Mode 101 = Differential Mode 110 = Direction/Speed Aiding Mode 111 = Fault	
29	MSB of Satellites Tracked (16 to 31)		

(*) = DADS Input is NOT required if ALTITUDE Data to GPSSU Sensor is received from IRS/FMS Inputs.

6.1.6.31 Track Angle - GPS (103)

TRACK ANGLE – GPS			Source: ARINC 743 GPSSU
LABEL (Octal) 103	Units: Degrees	Max. Range: ± 180 Degrees	Approx. LSB: 0.0055 Deg.
Data Bits: 14 to 28 = 15	+ = Clockwise from North	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 1000 Maximum	Data Type: 2’s Complement Binary		SDI Bits: 9, 10

6.1.6.32 Track Angle - True (313)

TRACK ANGLE – TRUE			Source: ARINC 702 FMS/ ARINC 704 IRS
LABEL (Octal) 313	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.00549 Degrees
Data Bits: 14 to 28 = 15 (Some systems may provide 12 bits in which case the LSB is approx. 0.0439)	+ = Clockwise from North	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 25 to 50	Data Type: 2’s Complement Binary		SDI Bits: 9, 10

6.1.6.33 True Heading (314)

TRUE HEADING			Source: ARINC 704 IRS/ AHRS or DAU
LABEL (Octal) 314	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.00549 Degrees
Data Bits: 14 to 28 = 15 (Some systems may provide 12 bits in which case the LSB is approx. 0.0439)	+ = Clockwise from North	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 25 to 50	Data Type: 2's Complement Binary		SDI Bits: 10/9 0/1 = #1 (left) 1/0 = #2 (right) 1/1= #3 (center) Used for DAU source only

6.1.6.34 Vertical Dilution Of Precision - GPS (VDOP) (102)

VERTICAL DILUTION OF PRECISION (VDOP)			Source: ARINC 743 GPSSU
LABEL (Octal) 102	Units: N/A	Max. Range: 1,024	Approx. LSB: 0.03125
Data Bits: 14 to 28 = 15	+ = N/A	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.35 Vertical Figure Of Merit - ARINC 743A GPS (136)

VERTICAL FIGURE OF MERIT – GPS			Source: ARINC 743A GPSSU
LABEL (Octal) 136	Units: Feet	Max. Range: 32,768 ft	Approx. LSB: 0.125
Data Bits: 11 to 28 = 18	+ = N/A	Sign Bit: 29	Pad Bits: N/A
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.35.1 Vertical Figure Of Merit - ARINC 743 GPS (136)

VERTICAL FIGURE OF MERIT – GPS			Source: ARINC 743 GPSSU
LABEL (Octal) 136	Units: Meters	Max. Range: 1,024	Approx. LSB: 0.03125
Data Bits: 14 to 28 = 15	+ = N/A	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: 9, 10

6.1.6.36 Reserved

6.1.6.37 Reserved

6.1.6.38 Universal Time Correlation (125)

UNIVERSAL TIME CORRELATION (UTC) (BCD)			Source: See NOTE 1
LABEL (Octal) 125	Units: Hours:Minutes	Max. Range: See NOTE 2	Approx. LSB: 0.1 Minute
Data Bits: See NOTE 3	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 1000 Maximum	Data Type: See NOTE 4		SDI Bits: 9, 10

NOTE 1: [AIRBUS] ARINC 604 CFDS/ CMC [GPS] ARINC 743 GPSSU
NOTE 2: Maximum value = 23:59.9
NOTE 3: BCD BIT Assignments per Table below:
NOTE 4: Honeywell Discrete for CAIMS, Binary Coded Decimal (BCD) for all other sources

UNIVERSAL TIME CORRELATION BIT ASSIGNMENTS		
BIT NO.	DEFINITION (CFDS/GPS)	DEFINITION (CAIMS)
11 - 14	Tenths of Minutes	UNITS of Minutes
15 - 18	UNITS of Minutes	TENS of Minutes
19 - 22	TENS of Minutes	UNITS of Hours
23 - 26	UNITS of Hours	TENS of Hours
27 - 29	TENS of Hours	N/A

6.1.6.39 Xpress GPS Packets ID 15: Lat/Lon/Estimated Horizontal Position Error

Byte	Data	Type	Units
0	Valid Flag	Byte	Valid = 1, Invalid = 0
1-4	Latitude	Real	Radians (WGS 84)
5-8	Longitude	Real	Radians (WGS 84)
9-12	Horizontal Position Error (*)	Real	Meters

(*) Horizontal position error = 2 * standard deviation of horizontal position.

6.1.6.40 Xpress GPS Packets ID 16: Altitude/Estimated Vertical Position Error

Byte	Data7	Type	Units
0	Valid Flag	Byte	Valid = 1, Invalid = 0
1-4	Altitude (*)	Real	Meters (MSL = WGS 84 - Geoid)
5-8	Vertical Position Error (**)	Real	Meters

(*) Altitude is MSL altitude which is computed from WGS 84 altitude by adding the geoid correction.
(**) Vertical position error = 2 * standard deviation of vertical position.

6.1.6.41 Xpress GPS Packets ID 17: Ground Speed/Track Angle

Byte	Data	Type	Units
0	Valid Flag	Byte	Valid = 1, Invalid = 0
1-4	Ground Speed	Real	Meters/Second
5-8	Track Angle	Real	Degrees (0..360)

6.1.6.42 Xpress GPS Packets ID 18: East/North/Up Velocity

Byte	Data	Type	Units
0	Valid Flag	Byte	Valid = 1, Invalid = 0
1-4	East Velocity	Real	Meters/Second
5-8	North Velocity	Real	Meters/Second
9-12	Up Velocity	Real	Meters/Second

6.1.6.43 Xpress GPS Packets ID 1C: GPS State

This packet contains information concerning the current state of the receiver subsystem.

Byte	Data	Type	Units
0	State	Byte	Discrete (*)
1	Integrity State	Byte	Bit Field (**)
2	Masked Integrity Warning	Byte	True = 1, False = 0 (***)
3	Bad Coverage	Byte	True = 1, False = 0 (****)
4	Altitude Aiding In Use	Byte	True = 1, False = 0
5	Nav Mode	Byte	Discrete (*****)
6-7	Error Status	Integer	Bit Field (******)

(*) State (binary)

00	initialization
01	search the sky
02	acquisition
03	transition
04	navigation
05	navigation with possible data collection
06	navigation with position degradation
07	dead reckon

(**) Integrity State (true if set; false otherwise)

0	HDOP > 4.0	Set in approach mode when RAIM is not available and the computed hdop exceeds 4.0
1	RAIM unavailable	Set when RAIM is not available in the current navigation mode
2	Integrity warning	Set when a RAIM error is detected
3	RAIM unavailable (masked)	Set when RAIM is not available in the current navigation mode and a turn is not in progress
4	Approach RAIM unavailable	Set when RAIM is unavailable in approach mode This flag allows a "host" to do a cross check on the RAIM prediction result before it switches into approach mode. However, if the system is not currently using altitude aiding, this flag could be unnecessarily set and contradict with the RAIM prediction result which may assume altitude aiding. Consequently, the “host” should disregard this flag when the predicted approach RAIM is available, the current nav mode is not approach, altitude aiding is not in effect, and all satellites in the XPRESS visibility list are in a tracking state.
5	FDE unavailable	Set when FDE is not available in the current navigation mode. If the FDE becomes unavailable because of shading during a turn, it will be masked for the duration of the turn.
6	FE active	Set when FDE excludes a tracking satellite.
7	Pseudo integrity warning	Set when a RAIM error is detected whether or not RAIM is available in the current navigation mode.

(***) Masked Integrity Warning: True when there is a RAIM detected error or when RAIM is not available and a turn is not in progress

(****) Bad Coverage: True when there is insufficient satellite coverage for RAIM or NAV

(*****) Nav Mode (binary)

0	en route
1	terminal
2	approach
3	oceanic

(******) Error Status (true if set; false otherwise)

0	not used
1	ROM failure
2	RAM failure
3	Nonvolatile RAM lost
4	RF failure
5	not used
6	not used
7	BaseBand ASIC failure
8	BaseBand ASIC timeout
9	not used
10	RS-232 channel 1 receiver timeout
11	EEPROM failure
12	RS-232 channel 2 fail
13	1 Millisecond underflow
14	not used
15	1 Millisecond overflow

6.1.6.44 Measurement Status - GPS (060)

MEASUREMENT STATUS – GPS			Source: ARINC 743A-3 GPSSU	
LABEL (Octal) 060	Units: N/A	Max. Range: N/A	Approx. LSB: N/A	
Data Bits: 11 to 29 = 19 See TABLE	+ = N/A		Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 1000 Maximum		Data Type: Discrete		SDI Bits: 9, 10

MEASUREMENT STATUS BIT ASSIGNMENTS		
Bit No.	DEFINITION	
11	System	1 = GLONASS (Reserved) 0 = GPS (Forced to 0)
12 - 17	C/N_o	Range 0 – 63 (00 – 3F Hex)
18	Satellite Position Data Used	1 = Ephemeris Data Used 0 = Almanac Data
19	User Clock Update	1 = Clock Update 0 = No Clock Update
20	Measurement Code used	1 = P Code 0 = C/A Code
21	Rate Measurement Type	1 = Delta Range Measurement 0 = Range Rate Measurement
22	Range Rate or Delta Range Status	1 = Valid 0 = Invalid
23	SVID Status/Isolation	1 = Valid 0 = Invalid
24 - 29	SVID (PRN Code No.)	Range 0 – 63 (00 – 3F Hex)

6.1.6.45 Required Navigation Performance – FMS RNP

This label is not available prior to -226-226.

REQUIRED NAVIGATION PERFORMACE – FMS			Source: FMC
LABEL (Octal) 106	Units: Nautical Miles	Max. Range: 128 NM's	Approx. LSB: 0.007813
Data Bits: 15 to 28 = 14 See TABLE	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 1000 Maximum	Data Type: 2's Complement Binary		SDI Bits: None

REQUIRED NAVIGATION PERFORMACE BIT ASSIGNMENTS			
Bit No.	DEFINITION		
9 – 10	Not used by EGPWS		
11 – 12	Active RNP Value Alert (Not used by EGPWS)	Active RNP Value Alert	0 0 = Not Used 0 1 = Caution 1 0 = Normal 1 1 = Warning
13	Spare		
14	RNP Flash (Not used by EGPWS)	0 = False (Off), 1 = True (On)	
15 – 28	Active RNP Value		
29	Active RNP Type (Not used by EGPWS)	0 = False (Off), 1 = True (On)	
30 - 31	SSM	0 0 = Failure Warning 0 1 = Functional Test 1 0 = No Computed Data 1 1 = Normal Operation	

6.1.7 Terrain Display

6.1.7.1 Control Word - MFD (154)

CONTROL WORD – MFD			Source: MFD (#1 & #2)
LABEL (Octal) 154	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: Discrete word, see below	+ = N/A	Sign Bit: N/A	Pad Bits: 9, 10
Transmit Interval (mSec): 50 ms	Data Type: Discrete		SDI Bits: N/A

DAU WORD BIT ASSIGNMENTS	
Bit No.	DEFINITION
11 - 13	Not Used by EGPWC
14	Terrain Display Overlay Active
15 - 29	Not Used by EGPWC

6.1.7.2 Control Word 1 (270)

CONTROL WORD 1 – WXR			Source: WXR Control Panel
LABEL (Octal) 270	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: Discrete word, see below	+ = N/A	Sign Bit: N/A	Pad Bits: 9, 10
Transmit Interval (mSec): 100 ms	Data Type: Discrete		SDI Bits: N/A

CONTROL WORD 1 BIT ASSIGNMENTS	
Bit No.	DEFINITION
11	Scan, Not Used by EGPWC
12	Anticlutter, Not Used by EGPWC
13	Stabilization, Not Used by EGPWC
14	Mode
15	Mode
16	Mode
17	Tilt, +0.25 degrees
18	Tilt, +0.5 degrees
19	Tilt, +1.0 degrees
20	Tilt, +2.0 degrees
21	Tilt, +4.0 degrees
22	Tilt, +8.0 degrees
23	Tilt, -16.0 degrees (sign)
24	Gain, Bit –1
25	Gain, Bit –2
26	Gain, Bit –4
27	Gain, Bit –8
28	Gain, Bit –16
29	Gain, Bit –32

Bits 14 to 16 = Mode, format as follows

Bit 16	Bit 15	Bit 14	MODE
0	0	0	Standby
0	0	1	Weather Only
0	1	0	Map Only
0	1	1	Windshear Hazard Factor
1	0	0	Test
1	0	1	Windshear and Turbulence
1	1	0	Weather and Turbulence
1	1	1	Windshear Icon

6.1.7.3 Control Word 2 (271/273)

CONTROL WORD 2 – WXR **DISPLAY WD 1 - NAV DISPLAY BUS**			Source: WXR Control Panel/Nav Display
LABEL (Octal) 271 For FDS-255 display the label is 273.	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: Discrete word, see below	+ = N/A	Sign Bit: N/A	Pad Bits: 9, 10
Transmit Interval (mSec): 100 to 120 ms	Data Type: Honeywell Discrete Note: Changed to Honeywell discrete SSM in –214-214.		SDI Bits: N/A

CONTROL WORD 2 BIT ASSIGNMENTS	
Bit No.	DEFINITION
11	Special Function, Not Used by EGPWC
12	Anticlutter, Not Used by EGPWC
13	Windshear, Not Used by EGPWC
14 - 23	Spares
24 - 29	Display Range as specified in the table below

BITS 24 to 29 = Display Range (5 to 320NM, format as follows)

Bit 29	Bit 28	Bit 27	Bit 26	Bit 25	Bit 24	RANGE
0	0	0	0	0	0	320 NM
0	0	0	0	0	1	5 NM
0	0	0	0	1	0	10 NM
0	0	0	1	0	0	20 NM
0	0	1	0	0	0	40 NM
0	1	0	0	0	0	80 NM
1	0	0	0	0	0	160 NM

6.1.7.4 Discrete Word - EFS Display Mode and Range, C130 (303)

DISCRETE WORD – EFS			Source: EFIS 40/50	
LABEL (Octal) 303	Units: N/A	Max. Range: N/A		Approx. LSB: N/A
Data Bits: Discrete word, see below	+ = N/A		Sign Bit: N/A	Pad Bits: None
Transmit Interval (mSec): 100	Data Type: Discrete			SDI Bits: 9,10

EFS DISCRETE WORD BIT ASSIGNMENTS	
Bit No.	DEFINITION
11 - 14	EFS Display Mode, see table below
15	Not Used by EGPWC
16 - 20	EFS Selected Range, see table below
21 - 29	Not Used by EGPWC

The following table shows the format of the EFS Display Mode bits.

Mode	bit 14	bit 13	bit 12	bit 11	Displayable*
HSI	0	0	0	0	No
HSI MAP	0	0	0	1	No
HSI MAP WX	0	0	1	0	Yes
HSI WX	0	0	1	1	Yes
WX Only	0	1	0	0	Yes
DG	0	1	0	1	No
North Up Plan	0	1	1	0	No
TCAS Only	0	1	1	1	No

*Displayable independent of weather being ON or OFF.

The following table shows the format of the EFS Selected Range bits.

Value of bits 16-20 (16 = LSB)	Range
0	0.5 NM
1	1 NM
2	2 NM
3	5 NM
4	10 NM
5	20 NM
6	40 NM
7	80 NM
8	160 NM
9	240 NM
10	320 NM
11	1000 NM
12 - 31	N/A

6.1.7.5 Discrete Word - FWC & GP (171) [1]

DISCRETE WORD – FWC & GP			Source: FWC or GP (#1 & #2 & 3)
LABEL (Octal) 171	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: Discrete word, see below	+ = N/A	Sign Bit: N/A	Pad Bits: none
Transmit Interval (mSec): 100 ms	Data Type: Discrete	SDI Bits: 9,10 See below	

NOTE 1: Several formats exist for this label.
Format 1: Does not use SDI's (default format).
Format 2: Uses SDI's and will be specified if required on a specific aircraft type.

NOTE 2: In –216 for Epic CDS and CDS/R displays (Table 5.2.7 IDs 34 and 35) a configuration mask is applied to ignore all bits except 18 and 25-28.

FWC or GP WORD BIT ASSIGNMENTS	
Bit No.	DEFINITION
	NOTE: Not all of the following bits are necessarily used on a given aircraft, but all will be processed. For example, Steep Approach is only supported in a limited number of installations, however the bits for steep approach are always monitored. The use of bit fields on a given aircraft will be indicated in the ICD for that aircraft.
9, 10	SDI: 9/10 1/0 = left display range, 0/1 = Right display range, 0/0 = No Range, 1/1 = No Range NOTE: SDI is not always read, only Format 2 uses SDI.
11 - 14	Self test command codes. NOTE: Used only if aircraft ICD indicates that a 'Type 1' discrete word is present. Bit 11 12 13 14 0 0 0 0 = No Test Command 0 0 1 0 = Short Level 1 Test Command 0 1 0 0 = Long Level 1 Test Command 0 1 1 0 = Level 2 Test Command 1 0 0 0 = Level 3 Test Command 1 0 1 0 = Level 4 Test Command 1 1 0 0 = Level 5 Test Command 1 1 1 0 = Level 6 Test Command 0 0 0 1 = Self Test Cancel Command 0 0 1 1 = Skip Command
15	Glideslope Cancel (momentary)
16	Flap Override (alternate action)
17	Terrain Awareness & TCF inhibit
18	Auto Range Confirm (alternate action)
19	Landing Gear Down Note: Not available on all FWCs. Used only if Format 1 applies.
20-22	
23	EGPWS Test Command Bit NOTE: Not available on all FWCs. Used only if aircraft ICD indicates that a 'Type 2' discrete word is present.
24	Steep Approach Activated (alternate action)
25 - 28	Terrain Display Range as specified in the table below
29	Not Used

BITS 25 to 28 = Terrain Display Range (0.5 to 2000NM, Format as follows)

DISPLAY RANGE BIT ASSIGNMENTS			
Bits 28-25	DEFINITION	Bits 28-25	DEFINITION
0000	0.5 NM	1000	150 NM
0001	1.0 NM	1001	200 NM
0010	2.5 NM	1010	300 NM
0011	5.0 NM	1011	500 NM
0100	10 NM	1100	1000 NM
0101	25 NM	1101	2000 NM
0110	50 NM	1110	600 NM
0111	100 NM	1111	1200 NM

[1] Definition not used prior to part number 965-1076-00X-213-213.

6.1.7.6 Discrete Word - MFD (155)

DISCRETE WORD – MFD			Source: MFD (#1 & #2)
LABEL (Octal) 155	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: Discrete word, see below	+ = N/A	Sign Bit: N/A	Pad Bits: 9, 10
Transmit Interval (mSec): 50 ms	Data Type: Discrete		SDI Bits: N/A

DAU WORD BIT ASSIGNMENTS	
Bit No.	DEFINITION
11 - 17	Not Used by EGPWC
18 - 24	Terrain Display Range as specified in the table below
25 - 29	Not Used by EGPWC

BITS 18 to 24 = Display Range (5 to 640 NM, Format as follows)

DISPLAY RANGE BIT ASSIGNMENTS			
Bits 24-18	DEFINITION	Bits 24-18	DEFINITION
All 7 bits zero:	640 NM	Bit 21 set:	40 NM
Bit 18 set:	5 NM	Bit 22 set:	80 NM
Bit 19 set:	10 NM	Bit 23 set:	160 NM
Bit 20 set:	20 NM	Bit 24 set:	320 NM

6.1.7.7 EFIS Discrete Words

For Boeing aircraft, the EFIS Discrete words are different depending on which aircraft type is used.

	737/757/767	747
EFIS Discrete Word 1:	Label 272 (display modes)	Label 274 (WXR On/Off)
EFIS Discrete Word 2:	Label 273 (WXR On/Off)	Label 272 (display modes)

To simplify requirements, Discrete Word #1 shall always be the word defining the display modes, and Discrete #2 shall be the word with WXR On/Off information. This reverses the definition for the 747.

6.1.7.7.1 EFIS Discrete Word 1 (Display Modes) (272)

EFIS Discrete Word 1 (4 formats - see tables below)			Source: EFIS Control Panel	
LABEL (Octal) 272	Units: N/A	Max. Range: N/A		Approx. LSB: N/A
Data Bit: 11 – 29	+ = N/A		Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 200 ms	Data Type: Discrete			SDI Bits: 9, 10

Bit assignments for the display modes of various aircraft are shown below:

FORMAT 1:

All FORMAT 1 aircraft types identified below can be summarized in one format. This format uses bits 11-14 and 28 to determine the displayable modes.

Boeing 747-400

Mode	bit 11	bit 12	bit 13	bit 14	bit 28	Displayable*
VOR	0	1	0	0	0	Yes
VOR CTR	0	1	0	0	1	No
APP	0	0	1	0	0	Yes
APP CTR	0	0	1	0	1	No
MAP	1	0	0	0	0	Yes
MAP CTR	1	0	0	0	1	No
PLAN	0	0	0	1	X	No

*Only displayable if weather is On (label 274 bit 22 = 1)

A300-600

Mode	bit 11	bit 12	bit 13	bit 14	bit 28	Displayable*
ARC - VOR	0	1	0	0	0	Yes
ARC - ILS	0	0	1	0	0	Yes
ROSE - VOR	0	1	0	0	1	No
ROSE - ILS	0	0	1	0	1	No
MAP	1	0	0	0	0	Yes
PLAN	0	0	0	1	X	No

*Displayable independent of weather being ON or OFF.

Note: EFIS control panel only has one position for ARC or ROSE. Bits 12 and 13 are set based on the position of the VOR/NAV/ILS selector switch on the EFIS complementary control panel. Bit 12 is set for VOR, Bit 13 is set for ILS.

FORMAT 2:

All FORMAT 2 aircraft types identified below can be summarized in one format. This format uses bits 11, 12-14, 18 and 28 to determine the displayable modes.

Boeing 737-300/400/500 Type 1

Mode	bit 11	bit 12	bit 13	bit 14	bit 18	bit 28	Displayable*
VOR	0	1	0	0	0	0	Yes
ILS	0	0	1	0	0	0	Yes
NAV	0	0	0	0	1	0	Yes
CTR MAP	1	0	0	0	0	1	Yes
MAP	1	0	0	0	0	0	Yes
PLAN	0	0	0	1	0	X	No

*Only displayable if weather is On (label 273 bit 23 = 1)

Note: HSI mode selector only has one position for VOR/ILS. Bits 12 and 13 are set based on the VOR/ILS receiver tuning information. Bit 12 is set for VOR, Bit 13 is set for ILS.

Boeing 737-300/400/500 Type 2

Mode	bit 11	bit 12	bit 13	bit 14	bit 18	bit 28	Displayable*
FULL - VOR	0	1	0	0	0	1	No
FULL - ILS	0	0	1	0	0	1	No
EXP - VOR	0	1	0	0	0	0	Yes
EXP - ILS	0	0	1	0	0	0	Yes
FULL NAV	0	0	0	0	1	1	No
EXP NAV	0	0	0	0	1	0	Yes
CTR MAP	1	0	0	0	0	1	Yes
MAP	1	0	0	0	0	0	Yes
PLAN	0	0	0	1	0	X	No

*Only displayable if weather is On (label 273 bit 23 = 1)

Note: HSI mode selector only has one position for VOR/ILS. Bits 12 and 13 are set based on the VOR/ILS receiver tuning information. Bit 12 is set for VOR, Bit 13 is set for ILS.

Boeing 737-300/400/500 Type 3

Mode	bit 11	bit 12	bit 13	bit 14	bit 18	bit 28	Displayable*
FULL - VOR	0	1	0	0	0	1	No
FULL - ILS	0	0	1	0	0	1	No
EXP - VOR	0	1	0	0	0	0	Yes
EXP - ILS	0	0	1	0	0	0	Yes
CTR MAP	1	0	0	0	0	1	Yes
MAP	1	0	0	0	0	0	Yes
PLAN	0	0	0	1	0	X	No

*Only displayable if weather is On (label 273 bit 23 = 1)

Note: HSI mode selector only has one position for VOR/ILS. Bits 12 and 13 are set based on the VOR/ILS receiver tuning information. Bit 12 is set for VOR, Bit 13 is set for ILS.

FORMAT 3:
All FORMAT 3 aircraft types identified below can be summarized in one format. This format uses bits 11-16 and 28 to determine the displayable modes.

Boeing 757/767

Mode	bit 11	bit 12	bit 13	bit 14	bit 15	bit 16	bit 28	Displayable*
EXP VOR	0	1	0	0	0	0	0	Yes
EXP ILS	0	0	1	0	0	0	0	Yes
FULL VOR	0	0	0	0	1	0	1	No
FULL ILS	0	0	0	0	0	1	1	No
MAP	1	0	0	0	0	0	X	Yes
PLAN	0	0	0	1	0	0	X	No

*Only displayable if weather is On (label 273 bit 23 = 1)

FORMAT 4:
All FORMAT 4 aircraft types identified below can be summarized in one format. This format uses bits 11, 14, 28 and 29 to determine the displayable modes.

A300-600

Mode	bit 11	bit 14	bit 28	bit 29	Displayable*
TEST	0	0	0	1	No
ROSE	0	0	1	0	No
ARC	0	0	0	0	Yes
MAP	1	0	0	0	Yes
PLAN	0	1	0	0	No

*Displayable independent of weather being ON or OFF.

NOTE: EFIS control panel only has one position for ARC or ROSE. Bit 25 is set based on the position of the VOR/NAV/ILS selector switch on the EFIS complementary control panel. Bit 25 is set for ILS and cleared for VOR (although this is a "don't care" for the EGPWS).

6.1.7.7.2 EFIS Discrete Word 2 (WXR On/Off) (273/274)

EFIS Discrete Word 2 (2 formats and labels- see table below)			Source: EFIS Control Panel
LABEL (Octal) 273 for 737/757/767 274 for 747	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bit: 23 for 737/757/767 22 for 747	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 200 ms	Data Type: Discrete		SDI Bits: 9, 10

BIT ASSIGNMENT

Weather Display	Format 1 737/757/767 Label 273, Bit 23	Format 2 747 Label 274, Bit 22
On	1	1
Off	0	0

6.1.7.7.3 EFIS Discrete Word (Display Modes & WXR Brightness ON) MD80 (105)

	AA MD-80
EFIS Discrete Word:	Label 105 (display modes & WXR brightness ON)

EFIS Discrete Word (format - see table below)			Source: SG ISDAS bus	
LABEL (Octal) 105	Units: N/A	Max. Range: N/A		LSB: N/A
Data Bits: see table below	+ = N/A		Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 1000	Data Type: Discrete			SDI Bits: N/A

Mode	bit 26	bit 27	bit 28	bit 29	Displayable*
ROSE	1	0	0	0	No
ARC	0	1	0	0	Yes
MAP	0	0	1	0	Yes
PLAN	0	0	0	1	No

*Only displayable if weather is selected ON with sufficient brightness

WXR Brightness	bit 13
ON (Brightness knob out of detent)	1
OFF (Brightness knob in detent)	0

6.1.7.7.4 EFIS Discrete Words (Display Modes & WXR Brightness ON) Fokker 100 (272/273)

	Fokker 100
EFIS Discrete Word 1:	Label 272 (display modes & WXR brightness ON)
EFIS Discrete Word 2:	Label 273 (display modes)

EFIS Discrete Word 1 (format - see table below)			Source: EFIS CP bus	
LABEL (Octal) 272	Units: N/A	Max. Range: N/A		LSB: N/A
Data Bits: see table below	+ = N/A		Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 100	Data Type: Discrete			SDI Bits: N/A

EFIS Discrete Word 2 (format - see table below)			Source: EFIS CP bus	
LABEL (Octal) 273	Units: N/A	Max. Range: N/A		LSB: N/A
Data Bits: see table below	+ = N/A		Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 100	Data Type: Discrete			SDI Bits: N/A

Mode	Label 272 - bit 14	label 272 - bit 11	Label 272 - bit 28	label 273 - bit 23	Displayable*
PLAN	1	0	0	0	No
MAP	0	1	0	0	Yes
ARC	0	0	0	1	Yes
ROSE	0	0	1	0	No

*Only displayable if weather is selected ON with sufficient brightness

WXR Brightness	label 272 bit 10
ON (Brightness knob out of detent)	0
OFF (Brightness knob in detent)	1

6.1.7.7.5 EFIS Discrete Word 2 (Track Up status) – Honeywell EFIS

This label added for the 965-0976-XXX-210-210 part number.

EFIS Discrete Word 2 (format - see table below)		Source: SG-ISDAS bus	
LABEL (Octal) 110	Units: N/A	Max. Range: N/A	LSB: N/A
Data Bits: see table below	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 1000	Data Type: Discrete		SDI Bits: N/A

Map Mode Orientation	bit 12
Track Up	1
Heading Up	0

6.1.7.7.6 EFIS Discrete Word 1 (MDA Select) – KC 10 (272)

For forward fit Boeing applications, display mode information is not required for the EGPWS. However, for the KC-10, this label also contains the MDA Select bit.

EFIS Discrete Word 1		Source: VIA-GP Bus	
LABEL (Octal) 272	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bit: see below	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 200 ms	Data Type: Discrete	SDI Bits: 9/10	

DISCRETE WORD 1 BIT ASSIGNMENTS	
Bit No.	DEFINITION
10-9	SDI: 10/9 = 01 = left 10/9 = 10 = right
11-14	Display Modes. Not Used by EGPWS
15	Used to adjust peaks mask as of –216. Bit = 0 when EFIS/MAP format used. Bit = 1 when PFD/ND format used.
16 – 23	Not Used by EGPWS
24	Map Mode orientation (added in –216-216). 1 = Heading Up 0 = Track Up
25-26	Not Used by EGPWS
27	'0' = Radio Altitude Minimums (DH) is Selected '1' = Barometric Altitude Minimums (MDA) is Selected
28	As of –216 this bit is used to select the EGPWS *Display Mode* used to adjust the peaks mask: Bit = 1 indicates CENTER MODE (EGPWS *Display Mode 1*) Bit = 0 indicates EXPANDED MODE (EGPWS *Display Mode 0*)
29	Not Used by EGPWS

6.1.7.7.7 EFIS Discrete Word 2 (EFIS range and status) – KC10

Discrete Word 2			Source: VIA-GP BUS	
LABEL (Octal) 273	Units: N/A	Max. Range: N/A		Approx. LSB: N/A
Data Bits: See below		+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 100 ms		Data Type: Discrete		SDI Bits: 10/9 = 01 = left 10/9 = 10 = right

NOTE: this definition is the same as MK-V FORMAT 4 for 737-600/700/800: Label = 273

FORMAT 4 DISCRETE WORD 2 BIT ASSIGNMENTS	
Bit No.	DEFINITION
10-9	SDI: 10/9 = 01 = left 10/9 = 10 = right
11	Not Used by EGPWS
12 - 19	Display Range as specified below
20	Not Used by EGPWS (Weather On, 1 = on)
21	Terrain On (1 = on)
22 - 26	Not Used by EGPWS
27	V1 Command (only from left SDI)
28 - 29	Not Used by EGPWS

BITS 12 to 19 = Display Range (5 to 640NM, format as follows)

Bit 19	Bit 18	Bit 17	Bit 16	Bit 15	Bit 14	Bit 13	Bit 12	RANGE
1	0	0	0	0	0	0	0	*320 NM
0	1	0	0	0	0	0	0	320 NM
0	0	1	0	0	0	0	0	160 NM
0	0	0	1	0	0	0	0	80 NM
0	0	0	0	1	0	0	0	40 NM
0	0	0	0	0	1	0	0	20 NM
0	0	0	0	0	0	1	0	10 NM
0	0	0	0	0	0	0	1	5 NM

* This bit pattern actually indicates a 640 NM setting, but the EGPWS will decode this as 320 NM.

6.1.7.8 Hazard Range Output (077)

Hazard Range Output – Wx RADAR		Source: Wx Radar		
LABEL (Octal) 077	Units: N/A	Max. Range: N/A	Approx. LSB: N/A	
Data Bits: Discrete word, see below		+ = N/A	Sign Bit: N/A	Pad Bits: 9, 10
Transmit Interval (mSec): 20 ms		Data Type: Discrete (non-standard SSM, see below)		SDI Bits: N/A

HAZARD RANGE OUTPUT BIT ASSIGNMENTS	
Bit No.	DEFINITION
11	Event Number LSB, Not Used by EGPWC
12	Event Number, Not Used by EGPWC
13	Event Number MSB, Not Used by EGPWC
14	Range (Start), 0.0625 nm, Not Used by EGPWC
15	Range (Start), 0.125 nm, Not Used by EGPWC
16	Range (Start), 0.25 nm, Not Used by EGPWC
17	Range (Start), 0.5 nm, Not Used by EGPWC
18	Range (Start), 1 nm, Not Used by EGPWC
19	Range (Start), 2 nm, Not Used by EGPWC
20	Range (Start), 4 nm, Not Used by EGPWC
21	Range (End), 0.0625 nm, Not Used by EGPWC
22	Range (End), 0.125 nm, Not Used by EGPWC
23	Range (End), 0.25 nm, Not Used by EGPWC
24	Range (End), 0.5 nm, Not Used by EGPWC
25	Range (End), 1 nm, Not Used by EGPWC
26	Range (End), 2 nm, Not Used by EGPWC
27	Range (End), 4 nm, Not Used by EGPWC
28	Alert level
29	Alert level

BITS 28 & 29 = Alert Level, format as follows

Bit 28	Bits 29	DEFINITION
0	0	No Alert
1	0	Level 1 (Advisory)
0	1	Level 2 (Caution)
1	1	Level 3 (Warning)

BITS 30 & 31 = SSM as follows

BIT 31	BIT 30	DEFINITION
0	0	Normal Operation
0	1	Invalid (fault)
1	0	Functional Test
1	1	NCD

6.1.7.9 Range - Multifunction Signal Generator MG or IC600 (050)

RANGE – MG			Source: MG or IC600
LABEL (Octal) 050	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: Discrete word containing both left and right ranges, see below	+ = N/A	Sign Bit: N/A	Pad Bits: 9, 10
Transmit Interval (mSec): 100 ms	Data Type: Discrete		SDI Bits: N/A

Note: Data format identical to EPGWC output label 050.
BITS 11 to 14 = Left Terrain Display Range (0.5 to 2000NM, Format as follows)
BITS 15 to 18 = Right Terrain Display Range (0.5 to 2000NM, Format as follows)

MG Note: Range is on one of two buses depending on whether MG is backing up right side.

DISPLAY RANGE BIT ASSIGNMENTS			
Bits 14-11 Bits 18-15	DEFINITION	Bits 14-11 Bits 18-15	DEFINITION
0000	0.5 NM	1000	150 NM
0001	1.0 NM	1001	200 NM
0010	2.5 NM	1010	300 NM
0011	5.0 NM	1011	500 NM
0100	10 NM	1100	1000 NM
0101	25 NM	1101	2000 NM
0110	50 NM	1110	600 NM
0111	100 NM	1111	1200 NM

6.1.7.9.1 Discrete Word – IC600 only

Discrete Word - (IC600 Packed Discrete Word 4)			Source: IC
LABEL (Octal) 275	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: Bit 17: See TABLE	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 500 ms	Data Type: Discrete		SDI Bits: 9, 10

BIT ASSIGNMENTS

Discrete Data	**Bit Definition**
IC outputting MFD format (its range is displayed)	Bit 17 = 1: IC Driving Display Bit 17 = 0: IC not Driving Display

6.1.7.10 Honeywell BA 747 Advisory Map Display (AMD) AFMS Control Output

The Honeywell BA 747 AMD is a center mounted display that provides an “EFIS-like” navigation map display using information from dual AFMS on classic 747’s. ARINC 708 Weather radar information can be overlaid on the Map display, which can also be EGPWS terrain display data. The display is controlled by a Map Electronics Unit (MEU) with it’s own control panel for range and mode select. The MEU sends out two discrete words in low speed ARINC 429 to the dual AFMS and WXR R/T units for display mode and range select information.

6.1.7.10.1 AFMS Map Control Word 1 (272)

AFMS Map Control Word 1			Source: Map Electronics Unit (MEU)
LABEL (Octal) 272	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bit: 11 – 29	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 62.5 ms	Data Type: Discrete		SDI Bits: 9, 10

The SDI and SSM for this word are always 00; parity is odd.
This format uses bits 11, 14 and 15 to determine the displayable modes. Bits 19-24 are used by AFMS only. All other bits are reserved or spare and set to 0.

For –210 and on use of Map Mode Track Up bit added.

BIT ASSIGNMENTS	
Bit No.	DEFINITION
11, 14, 15	Display Mode as indicated below
24	Map Mode orientation 0 = Heading Up 1 = track up

Mode	bit 11	bit 14	bit 15	Displayable*
MAP	1	0	0	Yes
PLAN	0	1	0	No
INS	0	0	1	No

*Only displayable if weather is On, as indicated by analog discretes.

6.1.7.10.2 AFMS Map Control Word 2 (274)

AFMS Map Control Word 2			Source: Map Electronics Unit (MEU)
LABEL (Octal) 274	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bit: 11 – 29	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 62.5 ms	Data Type: Discrete		SDI Bits: 9, 10

The SDI and SSM for this word are always 00; parity is odd.
This format uses bits 21, 22 and 25-29 to select range for AFMS and WXR display data. All other bits are reserved or spare and set to 0.

Range	bit 21	bit 22	bit 25	Bit 26	bit 27	bit 28	bit 29
*320 NM	1	0	0	0	0	0	0
320 NM	0	1	0	0	0	0	0
160 NM	0	0	0	0	0	0	1
80 NM	0	0	0	0	0	1	0
40 NM	0	0	0	0	1	0	0
20 NM	0	0	0	1	0	0	0
10 NM	0	0	1	0	0	0	0

*Actually indicates 640 NM setting.

6.1.7.11 Honeywell RS-422 Serial Control Interface (SCI) Mode/Range Word

The Serial Control Interface is transmitted on an RS-422 data bus. The data stream consists of 13 words transmitted within 47 milliseconds. Each character consists of one bit (Low), 8 data bits with least significant bit first; an ODD parity bit and one stop bit (high). The most significant bit of the character is a label or data flag bit.

Mode/Range Word 1			Source: Map Electronics Unit (MEU)
LABEL (Hex) 80	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bit: 1 – 8	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 100 ms	Data Type: Discrete		SDI Bits: N/A

Note this is an RS-422 serial data stream not ARINC 429 so SDI and SSM for this word are not applicable.

DISPLAY RANGE BIT ASSIGNMENTS				DISPLAY MODE BIT ASSIGNMENTS [1]		
Bits 4 - 7	Range	Bits 4 - 7	Range	Bits 1-3	Display Mode	Displayable
0100	0.5 NM	0110	150 NM	000	STBY	NO
0010	1.0 NM	1100	200 NM	001	WX	YES
1111	2.5 NM	1010	300 NM	010	MAP	NO
1011	5.0 NM	0001	500 NM	011	FLIGHT PLAN	NO
1101	10 NM	0101	1000 NM	100	TEST	NO
1001	25 NM	0011	2000 NM	101	WX/T	YES
1110	50 NM	0000	spare	110	CYC	NO
1000	100 NM	0111	spare	111	TRB	NO

[1] Display Mode used for "bolt-on" EDZ types only.

6.1.7.11.1 Serial Control Interface (SCI) Status Word 1, Label FF

Status Word 1			Source: Map Electronics Unit (MEU)
LABEL (Hex) FF	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bit: 1 – 8	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval: See above	Data Type: Discrete		SDI Bits: N/A

STATUS WORD BIT ASSIGNMENTS	
BIT	**DEFINITION**
1	SECTOR SCAN*
2	TARGET ENABLE
3	P-450
4	ERASE
5	VAR GAIN
6	SLAVE
7	RIGHT
8	0 (Always zero in data word)

* Sector Scan used for "bolt-on" EDZ types only.

6.1.7.12 Discrete Word - Bendix Weather Radar Vertical Profile Mode

Discrete Word			Source: EFIS/Weather Radar
LABEL (Octal) 273	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bit: 11	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 100 ms	Data Type: Discrete		SDI Bits: 9, 10

Some display systems support a vertical profile WXR display where the radar scans up and down. This mode can not support a terrain display. Therefore when this mode bit is set (indicating that the profile mode is active) the EGPWS is to treat this as a non-displayable mode.

Mode	bit 11	Displayable
Vertical Profile On	1	No
Vertical Profile Off	0	Yes

6.1.7.13 Query / Continuous Response (011)

QUERY / CONTINUOUS RESPONSE			Source: KCPB Display	
LABEL (Octal) 011	Units: N/A	Max. Range: N/A	Approx. LSB: N/A	
Data Bits: Discrete word	+ = N/A		Sign Bit: N/A	Pad Bits: None
Transmit Interval: Prompted Response or Continuous Response, 2-30 words /sec.	Data Type: Discrete			SDI Bits: N/A

Label 011 communicates the response to the KCPB Query / Setup Label (KCPB Label 027) or on a continuous basis. For a detailed description of the Query / Continuous Response Label 011 definition see the EGPWS Interface Methodology, 060-4303-000.

6.1.7.14 Key Press / Display Mode Data (012) – Optional

Key Press Data			Source: KCPB Display
LABEL (Octal) 012	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: Discrete work	+ = N/A	Sign Bit: N/A	Pad Bits: None
Transmit Interval (mSec): at least 200 msec	Data Type: Discrete		SDI Bits: 0

Key press / Display Mode data will be transmitted using Label 012. This is an optional label for KCPB displays. The state of the front panel keys will be transmitted nominally every 200 ms. Keys which are being pressed will be represented as logic "1" in the appropriate bit while non pressed keys will be registered as logic "0". For a detailed description of the Key Press / Display Mode Label 012 definition see the EGPWS Interface Methodology, 060-4303-000.
NOTE: 0x01…0x1F are intended for key press transmission TO the EGPWS and not as Text data.

6.1.7.15 Range (271)

Range			Source: KCPB Display
LABEL (Octal) 271	Units: NM	Max. Range: 1023.5	Approx. LSB: 0.5
Data Bits: 19 to 29 = 11	+ = N/A	Sign Bit: N/A	Pad Bits: 11-18
Transmit Interval (mSec): at least 200 msec	Data Type: Binary		SDI Bits: 9,10

6.1.7.16 DSU Status Word (350)

DSU Status Word			Source: DSU
LABEL (Octal) 350	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: Discrete word, see below	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 1000 maximum	Data Type: Discrete		SDI Bits: 9,10

DSU STATUS DISCRETE WORD BIT ASSIGNMENTS	
Bit No.	DEFINITION
1 – 8	Label (350_{OCTAL})
10-9	SDI
11	Power-Up Program Memory test (ROM_FAIL)
12	Power-Up External RAM test (RAM_FAIL)
13	Power-Up UDI Video Dual-Port RAM Test (UDIVM_FAIL)
15-14	Unused (always 0)
16	Continuous ARINC 453 Inactive Test
17	Continuous Display Range Validity Test (DISPRNG_FAIL)
18	Continuous Unused Interrupts Test (UNUSEDINT_FAIL)
23-19	Unused (always 0)
24	Program Pin A Status
25	Program Pin B Status
26	Program Pin C Status
27	Program Pin D Status
28	Program Pin E Status
29	Unused (always 0)
31-30	SSM (always 0)
32	Parity

6.1.8 Reserved

6.1.9 Reserved

6.1.10 Reserved
6.1.11 Reserved
6.1.12 Reserved
6.1.13 Reserved
6.1.14 Reserved
6.1.15 Reserved
6.1.16 Optional Inputs
6.1.16.1 PWS - Status Word

This section added for –206-206.

Status Output - Wx RADAR		Source: Wx Radar		
LABEL (Octal) 075	Units: N/A	Max. Range: N/A	Approx. LSB: N/A	
Data Bits: Discrete word, see below		+ = N/A	Sign Bit: N/A	Pad Bits: 9, 10
Transmit Interval (mSec): 20 - 160ms		Data Type: Discrete (non-standard SSM, see below)		SDI Bits: N/A

HAZARD RANGE OUTPUT BIT ASSIGNMENTS	
Bit No.	DEFINITION
11 - 22	Spare
23	PWS Audio On (1 = Audio On)
24	Selected for auto *PWS Activation* (1 = Selected R/T)
25	PWS Off (1 = manually disabled)
26	PWS Internal Fault (1 = fault)
27	PWS External Fault (1 = fault)
28	Alert Level (see below)
29	Alert Level (see below)

BITS 28 & 29 = Alert Level, format as follows

Bit 28	Bits 29	DEFINITION
0	0	No Alert
1	0	Level 1 (Advisory)
0	1	Level 2 (Caution)
1	1	Level 3 (Warning)

BITS 30 & 31 = SSM as follows

BIT 31	BIT 30	DEFINITION
0	0	Normal Operation
0	1	Invalid (fault)
1	0	Functional Test
1	1	NCD

6.1.16.2 AVRO EFIS Discrete Word

This section added for –210-210.

AVRO EFIS DISCRETE WORD		Source: EFIS-FMS Bus		
LABEL (Octal) 273	Units: N/A	Max. Range: N/A	Approx. LSB: N/A	
Data Bits: Uses SSM field, see table		+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 1000 ms max		Data Type: Non-Standard SSM		SDI Bits: N/A

AVRO EFIS DISCRETE WORD BIT ASSIGNMENTS	
Bit No.	DEFINITION
31-30	31 30 0 0 WXR On 0 1 NCD 1 0 F/T 1 1 WXR Off

6.1.17 PFD Display Select Word

6.1.17.1 PFD Mode Select Word – Type 6

This label added for the 965-1076-XXX-226-226 part number.

PFD MODE SELECT WORD – Type 6			Source: PFD via IOC
LABEL (Octal) 163	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: See NOTE 2 and 3	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): See NOTE 1	Data Type: Discrete		SDI Bits: N/A

NOTE 1: Transmit Interval for data from PFD via IOC is 200 mSec Maximum.
NOTE 2: BITS 25 to 28 contain Binary Code for Displayed Data Source, as listed below.
NOTE 3: BITS 19/20 indicate MDA selection status and BIT 21 indicates DH selection status, as listed below.

PFD Mode Select Word			
BIT NO.	DEFINITION		
19, 20	MDA Display Selection		
	Bit 19	Bit 20	
	0	0	MDA not selected
	1	0	MDA selected
	X	1	Not used
21	DH Display Selection		
	0	DH Not Selected	
	1	DH Selected	
25 - 28	Navigation data source currently displayed on the Primary Flight Display (PFD). The table below show decimal values with bit 25 the LSB * = Values currently used by EGPWC		
	00 = Not Used 01 = Not Used * 02 = VOR/LOC #1 * 03 = VOR/LOC #2 04 = FMS #1 05 = FMS #2 06 = FMS #3 07 = Not Used		* 08 = MLS #1 * 09 = MLS #2 * 10 = ILS #1 * 11 = ILS #2 12 = NOTE 1 13 = NOTE 1 14 = Not Used 15 = Not Used

NOTE 1: Code 12 and Code 13 are currently assigned to TACAN Data source. Neither of these states are used by the EGPWC to select or evaluate input data.

6.1.17.2 Discrete Word – MFD or PFD Mode Select 3

DISCRETE WORD – MFD/PFD MODE SELECT 3			Source: MFD (#1 & #2) or IOC (#1 & #2)
LABEL (Octal) 155 or 176	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: Discrete word, see below	+ = N/A	Sign Bit: N/A	Pad Bits: 9, 10
Transmit Interval (mSec): 50 ms	Data Type: Discrete		SDI Bits: N/A

NOTE: PFD Mode Select 3 (Premier 1/Proline 21 IOC) word is transmitted using label 176

DAU WORD BIT ASSIGNMENTS	
Bit No.	DEFINITION
11 - 17	Not Used by EGPWC
18 - 24	Terrain Display Range as specified in the table below
25 - 29	Not Used by EGPWC

BITS 18 to 24 = Display Range (5 to 640 NM, Format as follows)

DISPLAY RANGE BIT ASSIGNMENTS			
Bits 24-18	DEFINITION	Bits 24-18	DEFINITION
All 7 bits zero:	640 NM	Bit 21 set:	40 NM
Bit 18 set:	5 NM	Bit 22 set:	80 NM
Bit 19 set:	10 NM	Bit 23 set:	160 NM
Bit 20 set:	20 NM	Bit 24 set:	320 NM

6.1.18 FCC Mode Word 2

FCC MODE WORD 2 (Note 1, 3)			Source: FCC via IOC
LABEL (Octal) 271	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: See Note 2	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 100	Data Type: Discrete		SDI Bits: N/A

Note 1: This word first supported in part number 965-1076-0XX-226-226

Note 2: A "1" in BIT position 19 indicates that the FCC's are coupled on the right side (R-FCC).

Note 3: There are two types of processing for this signal. The basic type controls the ADC source; Type 2 controls the Glideslope/Localizer and optionally, the MDA/DH selection.

FCC MODE WORD 2 BIT ASSIGNMENTS	
Bit No.	DEFINITION
19	FCC Coupled Side 0= Coupled Left 1= Coupled Right

6.2 Digital Data, ARINC 575

Document Revision History, Appendix A, Section 6.2

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
30-MAR-99 – A Loos	All	SCR 3722. New file split off from I76_APXA.DOC. Revision history for -208-208 and earlier are at the beginning of Section 6.	-	-
26-MAY-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-

ARINC 575 data is very similar to the low speed ARINC 429 data described in the previous sections, but is one generation earlier in the aircraft serial data definition. As such, there is NO SDI Field, and the SIGN/STATUS Matrix for 2's Complement Binary data is different, and is given below for reference.

SIGN/STATUS Matrix: The number of BITS, and the meaning of these BITS, varies depending on the type of data in the ARINC 575 word.

ARINC 575 BINARY (BNR) DATA		
BIT 31	BIT 30	DEFINITION
0	0	Plus, North, East, Right, To, Above
0	1	Failure Warning
1	0	No Computed Data (NCD)
1	1	Minus, South, West, Left, From, Below

6.2.1 Barometric Altitude Rate (212)

BAROMETRIC ALTITUDE RATE			Source: ARINC 575 ADC
LABEL (Octal) 212	Units: Feet/Minute	Max. Range: ± 20,480 Ft/Min	Approx. LSB: 10 Ft/Min
Data Bits: 19 to 29 = 11	+ = Ascent	Sign Bit: Part of SSM	Pad Bits: 9 to 18
Transmit Interval (mSec): 62.5 Maximum	Data Type: 2's Complement Binary		SDI Bits: N/A

6.2.2 Computed Airspeed (206)

COMPUTED AIRSPEED			Source: ARINC 575 ADC
LABEL (Octal) 206	Units: Knots	Max. Range: ± 1024 Knots	Approx. LSB: 0.125 Knot
Data Bits: 17 to 29 = 13	+ = Forward	Sign Bit: Part of SSM	Pad Bits: 9 to 16
Transmit Interval (mSec): 125 Maximum	Data Type: 2's Complement Binary		SDI Bits: N/A

6.2.3 Corrected Barometric Altitude (204)

CORRECTED BAROMETRIC ALTITUDE (See NOTE)			Source: ARINC 575 ADC/FMC
LABEL (Octal) 204	Units: Feet	Max. Range: ± 131, 072 Feet	Approx. LSB: 1.0 Foot
Data Bits: 13 to 29 = 17	+ = Above Sea Level (ASL)	Sign Bit: Part of SSM	Pad Bits: 9 to 12
Transmit Interval (mSec): 62.5 Maximum	Data Type: 2's Complement Binary		SDI Bits: N/A

NOTE: Correction may be QNH or QFE.

6.2.4 Static Air Temperature (213)

STATIC AIR TEMPERATURE			Source: ARINC 575 ADC
LABEL (Octal) 213	Units: Degrees Celsius	Max. Range: 512 Degrees C.	Approx. LSB: 0.5 Degree
Data Bits: 20 to 29 = 10	+ = Above ZERO	Sign Bit: Part of SSM	Pad Bits: 9 to 19
Transmit Interval (mSec): 500 Maximum	Data Type: 2's Complement Binary		SDI Bits: N/A

6.2.5 Reserved

6.2.6 Uncorrected Barometric Altitude (203)

UNCORRECTED BAROMETRIC ALTITUDE			Source: ARINC 575 ADC
LABEL (Octal) 203	Units: Feet	Max. Range: ± 131,072 Feet	Approx. LSB: 1 Foot
Data Bits: 13 to 29 = 17	+ = Above Sea Level (ASL)	Sign Bit: Part of SSM	Pad Bits: 9 to 17
Transmit Interval (mSec): 62.5 Maximum	Data Type: 2's Complement Binary		SDI Bits: N/A

6.3 Analog Input Data

Document Revision History, Appendix A, Section 6.3

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
30-MAR-99 – A Loos	All	SCR 3722. New file split off from I76_APXA.DOC. Revision history for -208-208 and earlier are at the beginning of Section 6.	-	-
18-MAY-99 – A Loos	Table 6-1	SCR 3830: Add entry for Engine Power	-	210
06-NOV-99 - JDK	Table 6-1	SCR 4334: General document clean up	-	-
26-MAY-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-

All analog inputs have a fixed LSB value and process requirement regardless of the format of the analog signal. The following table defines the standard LSB values and processing times for each signal.

Table 6-1: SIGNAL SCHEDULING AND LSB VALUE

Signal	AAC Signal Scheduling Rate	Controller Card Processing Period	AAC FIFO LSB
Radio Altitude	31.25 ms (32 Hz)	50 ms	0.25 Foot
Baro Altitude Rate	125 ms (8 Hz)	130 ms	1 FPM
Corrected Baro Altitude, Coarse	125 ms (8 Hz)	130 ms	2 Foot
Corrected Baro Altitude, Fine	125 ms (8 Hz)	130 ms	1 Foot
Uncorrected Baro Altitude, Coarse	500 ms (2 Hz)	510 ms	2 Foot
Uncorrected Baro Altitude, Fine	500 ms (2 Hz)	510 ms	1 Foot
Uncorrected Baro Altitude, Fine (For Internal Rate Calculation)	125 ms (8 Hz)	130 ms	0.00549316°
Computed Airspeed	125 ms (8 Hz)	130 ms	0.03125 Knot
Long Acceleration	62.5 ms (16 HZ)	70 ms	0.00012207g
Normal Acceleration	62.5 ms (16 HZ)	70 ms	0.00012207g
Pitch	62.5 ms (16 HZ)	70 ms	0.00549316°
Roll	62.5 ms (16 HZ)	70 ms	0.00549316°
Mag Track ±180°	1000 ms (1 Hz)	1010 ms	0.00549316°
Localizer	125 ms (8 Hz)	130 ms	0.00126 DOT
Glideslope	62.5 ms (16 HZ)	70 ms	0.00048828 DOT
Selected RWY HDG/CRS ±180°	1000 ms (1 Hz)	1010 ms	0.08789°
True Airspeed	125 ms (8 Hz)	130 ms	0.03125 Knot
Static Air Temperature	500 ms (2 Hz)	520 ms	0.03125° C
Angle of Attack	125 ms (8 Hz)	130 ms	0.00549316°
Flap Angle	500 ms (2 Hz)	510 ms	0.00549316°
Mag Heading ±180°	1000 ms (1 Hz)	1010 ms	0.00549316°
Shaker Margin	125 ms (8 Hz)	130 ms	0.00549316°
PLI Monitor	125 ms (8 Hz)	130 ms	1 mV
Engine Power	250 ms (4 Hz)	250 ms	0.4 (%, HP…)

6.3.1 Angle of Attack/Flaps - AOA

Document Revision History, Appendix A, Section 6.3.1.1

Date – Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
30-MAR-99 – A Loos	All	SCR 3722. New file split off from I76_APXA.DOC. Revision history for -208-208 and earlier are at the beginning of Section 6.	-	-
15-MAR-99 R.W. Halbert	6.3.1.1.27 6.3.1.1.28	SCR 3964 Added A/C Type 57 for L1011 SCR 3965 Added A/C Type 58 for A300	-210 -210	-210 -210
26-APR-99 – M. Grigore	6.3.1.1.9	SCR 3815: Updated Table 6.3.1.1.9 Signal Dynamic Range, Signal Reasonable Range and Scale information to account for vane travel above WL only.	-210	-210
05-MAY-99 – M. Grigore	6.3.1.1.9	SCR 3815: Updated Table 6.3.1.1.9 Signal Reasonable Range to between –4° to +54°.	-210	-210
23-AUG-99 – S. Arnett	6.3.1.1.13	SCR 3962: Comment change to reference Encore.	-	-210
30-AUG-99 – R. Halbert	6.3.1.1.27	SCR 3964: Changed External Valid to None	-210	-210
20-DEC-99 – M. Henderson	6.3.1.1.29	SCR 4751: Changed A/C Type 59 for B747 SP to release –212.	-212	-212
15-FEB-00 – A Loos	6.3.1.1.18	Fix scaling reference information	-	-
03-APR-00 – P. Bateman	6.3.1.1.10	SCR 4998: Removed Falcon 50 designation from SLZ-9164 AOA type as it is used by multiple aircraft.	-212	-212
01-MAY-00 – M. Henderson	6.3.1.1.29	SCR 4751: Changed A/C Type 59 for B747 SP back to “future” release.	-213	-213
26-MAY-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
10-AUG-00 – M. Henderson	6.3.1.1.29	SCR 4751: Changed A/C Type 59 for B747 SP to “-213” release.	-213	-213
23-OCT-00 – N Paterson	6.3.1.1.23	SCR 5584: Changed Signal Reasonable Range from +- 80 deg. to None.	-214	-214
13-DEC-00 –M. Henderson	6.3.1.1.29	SCR 4751: Removed AOA validity discretes.	-213	-213
29-JAN-01 –M. Henderson	6.3.1.1.29	SCR 4751: Removed ‘future’ from hidden text.	-213	-213
11-JUL-01 – N Paterson	6.3.1.1.23	SCR 5584: Changed Effectivity above	-214	-214
17-JUL-01 – L. Caldeira	6.3.1.1.30	SCR 3626: Deleted this table, since it was decided not to implement the BAC 111. There is no net change to this document for SCR 3626.	-214	-214
28-SEP-01 – M. Henderson	6.3.1.1.15	SCR 3626: Added part descriptions to signal title.	-214	-214
05-MAY-03 - N Paterson	6.3.1.1.1	SCR 7462: Revised Scaling for single input	-218	-218
21-MAY-03 – R. Gharpure	6.3.1.1.1	SCR 7462: Revised Signal Dynamic Range & Signal Reasonable Range.	-	-
10-MAR-06 – M. Calhoun	6.3.1.1.18	SCR 8201: Doc only change to indicate TE up is 5 VDC.	-	-

6.3.1.1 Angle of Attack

6.3.1.1.1 Angle of Attack, DC

Data Item	Value
Signal Name:	Angle of Attack, DC Voltage
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	-15° - +21° (0 - 12 Vdc)
Signal Reasonable Range:	±15° (0 - 10 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	AOA (in°) = 3°/Vdc*$Volts_{in}$ - 15°
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	None
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	None

6.3.1.1.2 Angle of Attack, 3 Wire Synchro (11.8 VAC)

Data Item	Value	
Signal Name:	Angle of Attack, 3 Wire Synchro	
AAC Algorithm:	3 Synchro (11.8 VAC)	
Signal Dynamic Range:	±90° Synchro Angle (15.5 VAC max)	
Signal Reasonable Range:	±85° Synchro Angle	
Reference Dynamic Range:	17 to 34 VAC (not supplied)	
Reference Reasonable Range:	None	
Scale:	**#1**	**#2**
	AOA° (in°) = Synchro Angle (in°) + 28°	AOA° (in°) = -1*Synchro Angle (in°) + 28°
Input Signal Connection:	**#1**	**#2**
	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03	(X) = J2-C02 (Y) = J2-C01 (Z) = J2-C03
Input Reference Connection:	None	
External Validity Flag :	**#1**	**#2**
Connection	J2-G01	J2-E12
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000 3F0F	
External Validity Type:	None	

6.3.1.1.3 Angle of Attack, DC, Safeflight C-82305-4

Data Item	Value
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	-18.9533° to +47.713° (±10 Vdc) Note: Was -18.3333° to +48.333° prior to –206.
Signal Reasonable Range:	No Monitoring (full scale allowed) Note: Was –15 to +45 degrees (±9 Vdc) prior to –206.
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	AOA (in°) = -3.3333°/Vdc*$Volts_{in}$ + 14.38° Note: Offset was 15 degrees prior to –206.
Input Signal Connection:	(+) = J2-E04, (-) = J2-E05
Input Reference Connection:	None
External Validity Flag Connection:	J2-G01
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	Discrete Validity, 28 V

6.3.1.1.4 Angle of Attack, DC Ratio (Hawker 800/700 Teledyne)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-6.22° to +38.222°
Signal Reasonable Range:	-6° to +38° Note: range was -4° to +36° prior to -208
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	AOA (in°) = -44.444° *V_{ratio} + 38.222°
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.1.5 Angle of Attack, 3 Wire Synchro (11.8 VAC) (DC-10)

Data Item	Value	
Signal Name:	Angle of Attack, 3 Wire Synchro	
AAC Algorithm:	3 Synchro (11.8 VAC)	
Signal Dynamic Range:	±90° Synchro Angle (15.5 VAC max)	
Signal Reasonable Range:	±85° Synchro Angle	
Reference Dynamic Range:	17 to 34 VAC (not supplied)	
Reference Reasonable Range:	None	
Scale:	**#1**	**#2**
	AOA° (in°) = 0.37037*Synchro Angle (in°) + 8°	AOA° (in°) = -0.37037*Synchro Angle (in°) + 8°
Input Signal Connection:	**#1**	**#2**
	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03	(X) = J2-C02 (Y) = J2-C01 (Z) = J2-C03
Input Reference Connection:	None	
External Validity Flag :	**#1**	**#2**
Connection	J2-G01	J2-E12
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000 3F0F	
External Validity Type:	Discrete Validity, 28 V	

6.3.1.1.6 Angle of Attack, DC Ratio (Citation V/ULTRA -Teledyne P/N SLZ 7306)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-21.73° to +52.93°
Signal Reasonable Range:	-19.4° to 50.6°
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	AOA (in°) = -77.7778° *V_{ratio} + 54.4889°
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030F0 (Note 1)
External Validity Type:	None

Note 1: AAC Status Mask changed to turn off signal reasonableness test, was “000030FF” prior to –208.

6.3.1.1.7 Angle of Attack, DC Ratio (Citation III/VI/VII -Teledyne P/N SLZ 7272-1)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio
AAC Algorithm:	DC Ratio
Signal Dynamic Range:	-12.84° to +61.08°
Signal Reasonable Range:	-10.9° to 59.1°
Reference Dynamic Range:	6.9 to 12.9 Vdc
Reference Reasonable Range:	7.9 to 11.9 Vdc
Scale:	AOA (in°) = 77.8171° *V_{ratio} - 14.7889°
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08 (10.45 Vdc), (-) = J2-E09 (0.545 Vdc)
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030F0 (Note 1)
External Validity Type:	None

Note 1: AAC Status Mask changed to turn off signal reasonableness test, was "000030FF" prior to –208.

6.3.1.1.8 Angle of Attack, DC Ratio (Falcon 20F Teledyne SLZ-9386-1)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-4.72° to +39.72°
Signal Reasonable Range:	-3.83° to 38.83°
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	AOA (in°) = -44.44° *V_{ratio} + 39.72° (T.E. Up=0Vdc, Mid of Pot=17.5 Deg T.E. Up, (2.2KΩ pot))
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.1.9 Angle of Attack, DC Ratio (Falcon 20F Conrac/Gulton 2551A-5AP)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-15° to +65°
Signal Reasonable Range:	–4° to +54°
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	AOA (°) = -80.0° *V_{ratio} + 65.0° (T.E. Up (50°)=0.9375 Vdc, WL (0°)=4.0625 Vdc, (R1=10KΩ pot, R2=R3=3KΩ))
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.1.10 Angle of Attack, DC Ratio (Teledyne SLZ-9164)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-6° to +49°
Signal Reasonable Range:	-3.7° to 46.7°
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	AOA (in°) = -55° *V_{ratio} + 49° (T.E. Up=0Vdc, Mid of Pot=21.5 Deg T.E. Up, (2.75KΩ pot))
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.1.11 Angle of Attack, DC Ratio (G-II, G-IIB, G-III Teledyne SLZ-9692)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-12° to +48°
Signal Reasonable Range:	-12° to +48°
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	AOA (in°) = -60° * V_{ratio} + 48° (T.E. Up=0Vdc, Mid of Pot=18 Deg T.E. Up, (1.8KΩ pot))
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.1.12 Angle of Attack, 3 Wire Synchro (747-100/200/300)

Data Item	Value	
Signal Name:	Angle of Attack, 3 Wire Synchro	
AAC Algorithm:	3 Synchro (11.8 VAC)	
Signal Dynamic Range:	±90° Synchro Angle (15.5 VAC max)	
Signal Reasonable Range:	±85° Synchro Angle	
Reference Dynamic Range:	17 to 34 VAC (not supplied)	
Reference Reasonable Range:	None	
Scale:	**#1**	**#2**
	AOA° (in°) = Synchro Angle (in°) + 14.4°	AOA° (in°) = -1*Synchro Angle (in°) + 14.4°
Input Signal Connection:	**#1**	**#2**
	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03	(X) = J2-C02 (Y) = J2-C01 (Z) = J2-C03
Input Reference Connection:	None	
External Validity Flag :	None	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000 3F0F	
External Validity Type:	None	

6.3.1.1.13 Angle of Attack, DC, Cessna Citation Bravo/Citation Encore, Safeflight C-12717-1

Data Item	Value
Signal Name:	Angle of Attack, DC Voltage
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	±50° (typical range is +/-45°) Note: was ±42° prior to –206 mod 1
Signal Reasonable Range:	±50° (does not have mechanical stops) (deliberately set high due to separate validity input) Note: was ±41° prior to –206 mod 1
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	AOA (in°) = -4°/Vdc*$Volts_{in}$ (T.E. Up=0Vdc, 0.25Vdc/Degree 2.KΩ pot)
Input Signal Connection:	(+) = J2-E04, (-) = J2-E05
Input Reference Connection:	None
External Validity Flag Connection:	J2-G01
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	Discrete Validity, 28Vdc

6.3.1.1.14 Angle of Attack, 3 Wire Synchro (737-100/200/200ADV)

Data Item	Value
Signal Name:	Angle of Attack, 3 Wire Synchro
AAC Algorithm:	3 Synchro (11.8 VAC)
Signal Dynamic Range:	±90° Synchro Angle (15.5 VAC max)
Signal Reasonable Range:	±85° Synchro Angle
Reference Dynamic Range:	17 to 34 VAC (not supplied)
Reference Reasonable Range:	None
Scale:	AOA° (in°) = Synchro Angle (in°) + 14°
Input Signal Connection:	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03
Input Reference Connection:	None
External Validity Flag :	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000 3F0F
External Validity Type:	None

6.3.1.1.15 Angle of Attack, DC Ratio (DC-8 ALL & DC 9-10) (Rosemount 861CAL901FP4, Conrac 25147A-3A, Honeywell/Sunstrand 302-0010-01)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-40° to +60°
Signal Reasonable Range:	-36° to + 56°
Reference Dynamic Range:	3.5 to 6.5 VDC
Reference Reasonable Range:	4.75 to 5.25 VDC
Scale:	AOA (in°) = 100° * V_{RATIO} – 40°
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.1.16 Angle of Attack, DC Ratio (Canadair CL600/601 Rosemount 861CAL501FC4)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-11° to + 44°
Signal Reasonable Range:	-8.5° to 41.5°
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	AOA (in°) = 44° - 55° *V_{ratio} (T.E. Up=0Vdc, Mid of Pot=16.5 Deg T.E. Up, (2.75KΩ pot))
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030F0 (Note 1)
External Validity Type:	None

Note 1: AAC Status Mask changed to turn off signal reasonableness test, was “000030FF” prior to –208.

6.3.1.1.17 Angle of Attack, DC Ratio (Beechjet 400 -Teledyne P/N SLZ 7275-1)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-22.33° to +52.33°
Signal Reasonable Range:	-20.0° to +50.0°
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	AOA (in°) = -77.7778° *V_{ratio} + 53.8889°
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.1.18 Angle of Attack, DC Ratio (Lear 31A, 60° Conrac/Gulton 25147A-10, -12)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio
AAC Algorithm:	DC Ratio
Signal Dynamic Range:	-11° to +49°
Signal Reasonable Range:	-11° to +49°
Reference Dynamic Range:	4.9 to 15.1 Vdc
Reference Reasonable Range:	5 to 15 Vdc
Scale:	AOA (in°) = -60° *V_{ratio} +49° (T.E. Up = 5 Vdc, Mid of Pot = 19 Deg T.E. Up, (2.16KΩ pot))
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.1.19 Angle of Attack, DC Ratio (Lear 55, 60° Conrac/Gulton 25147A-9, -29)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-8° to +52°
Signal Reasonable Range:	-8° to +52°
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	AOA (in°) = -60° *V_{ratio} +52° (T.E. Up=0 Vdc, Mid of Pot=22 Deg T.E. Up, (2.16KΩ pot))
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.1.20 Angle of Attack, DC Ratio (Lear 35 - 60° Conrac/Gulton 25147A-8,-28)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-11° to +49°
Signal Reasonable Range:	-11° to +49°
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	AOA (in°) = -60° *V_{ratio} +49° (T.E. Up=0 Vdc, Mid of Pot=19 Deg T.E. Up, (2.16KΩ pot))
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.1.21 Angle of Attack, DC Ratio (Lear 35, 50° Conrac/Gulton 25147A-5/5A/25/25A)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-6° to +44°
Signal Reasonable Range:	-6° to +44°
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	AOA (in°) = -50° *V_{ratio} +44° (T.E. Up=0 Vdc, Mid of Pot=19 Deg T.E. Up, (1.8KΩ pot))
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.1.22 Angle of Attack, DC, Safeflight C-11606-5, -6, -9

Data Item	Value
Signal Name:	Angle of Attack, DC Voltage
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	-21.533° to +45.133° (±10 Vdc)
Signal Reasonable Range:	No Monitoring (full scale allowed) Note: Was –18.2 to +41.8 degrees (±9 Vdc) prior to –206.
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	AOA (in°) = -3.3333°/Vdc*$Volts_{in}$ + 11.8°
Input Signal Connection:	(+) = J2-E04, (-) = J2-E05
Input Reference Connection:	None
External Validity Flag Connection:	J2-G01
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	Discrete Validity, 28 V

6.3.1.1.23 Angle of Attack, 3 Wire Synchro (C-141)

Data Item	Value	
Signal Name:	Angle of Attack, 3 Wire Synchro	
AAC Algorithm:	3 Synchro (11.8 VAC)	
Signal Dynamic Range:	±90° Synchro Angle (15.5 VAC max)	
Signal Reasonable Range:	None	
Reference Dynamic Range:	17 to 34 VAC (not supplied)	
Reference Reasonable Range:	None	
Scale:	**#1**	**#2**
	AOA° (in°) = 0.38755 * Synchro Angle (in°) + 22.73°	AOA° (in°) = -0.37666*Synchro Angle (in°) + 23.25°
Input Signal Connection:	**#1**	**#2**
	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03	(X) = J2-C02 (Y) = J2-C01 (Z) = J2-C03
Input Reference Connection:	None	
External Validity Flag :	None	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000 3F0F	
External Validity Type:	None	

6.3.1.1.24 Angle of Attack, DC Ratio (ASTRA SP Teledyne SLZ-7278)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-23.89° to +53.89°
Signal Reasonable Range:	-22.00° to 52.00°
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	AOA (in°) = -77.77° *V_{ratio} + 53.89° (T.E. Up=0Vdc, Mid of Pot=15 Deg T.E. Up, (4.0KΩ pot))
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.1.25 Angle of Attack, DC Ratio (Westwind II Teledyne SLZ-7259)

Data Item	Value
Signal Name:	Angle of Attack, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-11.22° to +33.22°
Signal Reasonable Range:	-10.00° to 32.00°
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	AOA (in°) = -44.44° *V_{ratio} + 33.22° (T.E. Up=0Vdc, Mid of Pot=11.0 Deg T.E. Up, (2.2KΩ pot))
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	(+) = J2-E08, (-) = J2-E09
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.1.26 Angle of Attack, DC Ratio (DC-9-21, 30, 32 & C-9A, C 60° Conrac 25147A-3B/Teledyne 800987-17)

Data Item	Value
Signal Name:	Angle of Attack, DC Absolute
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	-30° to +70°
Signal Reasonable Range:	-20° to +60°
Reference Dynamic Range:	
Reference Reasonable Range:	
Scale:	AOA (in°) = -5.625*V_{in} +50° (T.E. Up=1.2Vdc, Mid of Pot=20 Deg T.E. Up, (1.8KΩ pot))
Input Signal Connection:	(+) = J2-H01, (-) = J2-H03
Input Reference Connection:	
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	None

6.3.1.1.27 Angle of Attack, 3 Wire Synchro (11.8 VAC) (L1011)

Data Item	Value
Signal Name:	Angle of Attack, 3 Wire Synchro
AAC Algorithm:	3 Synchro (11.8 VAC)
Signal Dynamic Range:	±90° Synchro Angle (15.5 VAC max)
Signal Reasonable Range:	None
Reference Dynamic Range:	17 to 34 VAC (not supplied)
Reference Reasonable Range:	None
Scale:	#1
	AOA° (in°) = 0.37037*Synchro Angle (in°) + 19°
Input Signal Connection:	#1
	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03
Input Reference Connection:	None
External Validity Flag :	#1
Connection	J2-G01
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000 3F0F
External Validity Type:	None

6.3.1.1.28 Angle of Attack, 3 Wire Synchro (11.8 VAC) (A300)

Data Item	Value	
Signal Name:	Angle of Attack, 3 Wire Synchro	
AAC Algorithm:	3 Synchro (11.8 VAC)	
Signal Dynamic Range:	±90° Synchro Angle (15.5 VAC max)	
Signal Reasonable Range:	None	
Reference Dynamic Range:	17 to 34 VAC (not supplied)	
Reference Reasonable Range:	None	
Scale:	#1	#2
	AOA° (in°) = 0.37037*Synchro Angle (in°) + 25°	AOA° (in°) = -0.37037*Synchro Angle (in°) +25°
Input Signal Connection:	#1	#2
	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03	(X) = J2-C02 (Y) = J2-C01 (Z) = J2-C03
Input Reference Connection:	None	
External Validity Flag :	#1	#2
Connection	J2-G01	J2-E12
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000 3F0F	
External Validity Type:	Discrete Validity, 28 V	

6.3.1.1.29 Angle of Attack, 3 Wire Synchro (11.8 VAC) (Boeing 747 SP)

Data Item	Value	
Signal Name:	Angle of Attack, 3 Wire Synchro	
AAC Algorithm:	3 Synchro (11.8 VAC)	
Signal Dynamic Range:	±90° Synchro Angle (15.5 VAC max)	
Signal Reasonable Range:	None	
Reference Dynamic Range:	17 to 34 VAC (not supplied)	
Reference Reasonable Range:	None	
Scale:	#1	#2
	AOA° (in°) = 1.0* Synchro Angle (in°) + 14.4°	AOA° (in°) = -1.0* Synchro Angle (in°) + 14.4°
Input Signal Connection:	#1	#2
	(X) = J2-H01 (Y) = J2-H02 (Z) = J2-H03	(X) = J2-C02 (Y) = J2-C01 (Z) = J2-C03
Input Reference Connection:	None	
External Validity Flag :	None	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000 3F0F	
External Validity Type:	None	

6.3.1 Angle of Attack/Flaps – Flaps/Shaker Margin/PLI/Engine Power

6.3.1.2 Flaps

Document Revision History, Appendix A, Section 6.3.1.2,3,4

Date – Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
30-MAR-99 – A Loos	All	SCR 3722. New file split off from I76_APXA.DOC. Revision history for -208-208 and earlier are at the beginning of Section 6.	-	-
15-MAR-99 R.W. Halbert	6.3.1.2.14 6.3.1.2.15 6.3.1.2.17	SCR 3964 Added A/C Type 57 for L1011 SCR 3965 Added A/C Type 58 for A300 SCR 3626 Added A/C Type 60 for DC 9-10	-210 -210 -214	-210 -210 -214
18-MAY-99 - A Loos	6.3.1.5	SCR 3830: Add new Section for Engine Power.	-210	-210
	6.3.1.2.14 thru 18	SCR 3626: Minor editorial corrections		
22-JUL-99 – MJC	6.3.1.2.3 6.3.1.2.13 6.3.1.2.17	SCR 4017. Added flap reference WIRING polarity information. No S/W affected.	-	-
23-AUG-99 – S. Arnett	6.3.1.2.4	SCR 3962: Comment change to reference Encore.	-	-210
02-SEP-99 R.W. Halbert	6.3.1.2.14 6.3.1.2.15 6.3.1.2.17	SCR 3964 Added input reference, removed 2nd flap SCR 3965 Added input reference, removed 2nd flap SCR 3626 Removed 2nd flap	-210 -210 -214	-210 -210 -214
20-SEP-99 -G. Burlingame	6.3.1.2.12	SCR 4293: Changed flap scaling from percentage to synchro degrees	-	-210
20-DEC-99 – M. Henderson	6.3.1.2.16	SCR 4751: Changed A/C Type 59 for B747 SP to release –212.	-212	-212
01-MAY-00 – M. Henderson	6.3.1.2.16	SCR 4751: Changed A/C Type 59 for B747 SP back to “future” release.	-213	-213
02-JUN-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
10-AUG-00 – M. Henderson	6.3.1.2.16	SCR 4751: Changed A/C Type 59 for B747 SP to “-213” release.	-213	-213
12-SEP-00 – A Loos	6.3.1.5.1	SCR 5446: Change AAC Status Mask to: 0000000F	-214	-214
09-JAN-01 – M. Henderson	6.3.1.2.4 6.3.1.2.10 6.3.1.2.14 6.3.1.2.15 6.3.1.2.16 6.3.1.2.18	SCR 5763: Changed all signal names that said "Angle of Attack" to "Flap Angle".	-	-
29-JAN-01 – M. Henderson	6.3.1.2.16	SCR 4751: Removed ‘future’ from hidden text.	-213	-213
17-JUL-01 – L. Caldeira	6.3.1.2.17 6.2.3.1.18 (del)	SCR 3626: Removed ‘future’ from audit trail and reqs. Also deleted 6.3.1.2.18 req and audit trail entry, since it was decided not to implement the BAC 111.	-214	-214
10-SEP-01 – Krish	6.3.1.2.18	SCR 3308: Added Flap Angle for A/C Type 68 Citation-II/550	-214	-214

6.3.1.2.1 Flap Angle, DC

Data Item	Value
Signal Name:	Flap Angle, DC Voltage
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	0- 54° (0 - 6 Vdc)
Signal Reasonable Range:	0- 45° (0 - 5 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Flap Angle (in°) = 9°/Vdc*$Volts_{in}$
Input Signal Connection:	(+) = J2-J13, (-) = J2-J15
Input Reference Connection:	None
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	None

6.3.1.2.2 Flap Angle, 5 Wire Synchro

Data Item	Value	
Signal Name:	FLAP ANGLE, 5 WIRE SYNCHRO	
AAC Algorithm:	5 Synchro (11.8 VAC)	
Signal Dynamic Range:	0 to 360° Synchro Angle (15.5 VAC max for 11.8 V synchro)	
Signal Reasonable Range:	0 to 360° Synchro Angle	
Reference Dynamic Range:	17 - 34 VAC	
Reference Reasonable Range:	None	
Scale:	**Synchro Angle**	**Flap Angle**
	>305° and ≤ 33°	0°
	>33° and ≤ 109°	2°
	>109° and ≤ 171.7°	5°
	>171.7° and ≤ 197.3°	15°
	>197.3° and ≤ 211.3°	20°
	>211.3° and ≤ 224.8°	25°
	>224.8° and ≤ 248.3°	30°
	>248.3° and ≤ 305°	40°
Input Signal Connection:	(X) = J2-J13, (Y) = J2-J14, (Z) = J2-J15	
Input Reference Connection:	(H) = J2-G14, (C) = J2-G15	
External Validity Flag Connection:	N/A	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	00003F0F	
External Validity Type:	None	

6.3.1.2.3 Flap Angle, 5 Wire Synchro (DC-10)

Data Item	Value	
Signal Name:	FLAP ANGLE, 5 WIRE SYNCHRO	
AAC Algorithm:	5 Synchro (11.8 VAC)	
Signal Dynamic Range:	±180° Synchro Angle (15.5 VAC max for 11.8 V synchro)	
Signal Reasonable Range:	±180° Synchro Angle	
Reference Dynamic Range:	17 - 34 VAC	
Reference Reasonable Range:	None	
Scale:	**Synchro Angle**	**Flap Angle**
	>80° and ≤ 0°	0°
	>0° and ≤ 80°	Synchro Angle (in°)
Input Signal Connection:	(X) = J2-J13, (Y) = J2-J14, (Z) = J2-J15	
Input Reference Connection:	(H) = J2-G15, (C) = J2-G14 Note: The DC-10 flap position synchro rotates opposite from normal rotation. This is why the polarity of the reference voltage is reversed from that typically used for this input.	
External Validity Flag Connection:	N/A	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	00003F0F	
External Validity Type:	None	

6.3.1.2.4 Flap Angle DC Ratio (CITATION V/ULTRA/ENCORE)

Data Item	Value
Signal Name:	Flap Angle, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-8.436° to 39.886° Note: was -7.34° to +49.11° prior to –206
Signal Reasonable Range:	-3.6° to 35.05° Note: was -1.69° to 43.47° prior to –206.
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	Flap Angle (in°) = 48.3218° *V_{ratio} - 8.4361° Note: Was Flap Angle (in°) = 56.4516° *V_{ratio} - 7.3387°prior to –206.
Input Signal Connection:	(+) = J2-J13, (-) = J2-J15
Input Reference Connection:	(+) = J2-G14, (-) = J2-G15
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.2.5 Flap Angle, DC (CITATION III/VI/VII)

Data Item	Value
Signal Name:	Flap Angle, DC Voltage
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	0- 50° (0 - 12 Vdc)
Signal Reasonable Range:	0- 45° (0 - 11 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Flap Angle (in°) = 5°/Vdc*$Volts_{in}$ - 10° (Note: Actual curve in not straight, Angle is 20° at 6.3 V_{dc})
Input Signal Connection:	(+) = J2-D06, (-) = J2-D07
Input Reference Connection:	None
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	None

6.3.1.2.6 Flap Angle, 5 Wire Synchro (747-100/200/300)

Data Item	Value	
Signal Name:	FLAP ANGLE, 5 WIRE SYNCHRO	
AAC Algorithm:	5 Synchro (11.8 VAC)	
Signal Dynamic Range:	0 to 360° Synchro Angle (15.5 VAC max for 11.8 V synchro)	
Signal Reasonable Range:	0 to 360° Synchro Angle	
Reference Dynamic Range:	17 - 34 VAC	
Reference Reasonable Range:	None	
Scale:	**#1**	**#2**
	Flap° (in°) = Synchro Angle	Flap° (in°) = -1.0*Synchro Angle (in°)
	Synchro Angle	**Flap Angle**
	>310°and =6°	0°
	>6°and =57°	1°
	>57°and =126°	5°
	>126°and =180°	10°
	>180°and =226°	20°
	>226°and =262°	25°
	>262°and =310°	30°
	#1	**#2**
Input Signal Connection:	(X) = J2-J13, (Y) = J2-J14, (Z) = J2-J15	(X) = J2-D2, (Y) = J2-D1 (Z) = J2-D3
Input Reference Connection:	(H) = J2-G14, (C) = J2-G15	(H) = J2-E08, (C) = J2-E09
External Validity Flag Connection:	N/A	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	00003F0F	
External Validity Type:	None	

6.3.1.2.7 Flap Angle, DC, Cessna Citation Bravo (-204-204)

Note: Section 6.3.1.2.10 defines the Bravo flap input for p/n's –206-206 and on.

Data Item	Value	
Signal Name:	Flap Angle, DC Voltage	
AAC Algorithm:	DC Absolute	
Signal Dynamic Range:	-2° to 45° (0 - 15 Vdc)	
Signal Reasonable Range:	-1° to 35° (0 - 12 Vdc)	
Reference Dynamic Range:	None	
Reference Reasonable Range:	None	
Scale:	**Voltage in**	**Flap Angle**
	≤ 1.5 Vdc	0°
	> 1.5 Vdc and ≤ 5.7 Vdc	3.5714°/Vdc*$Volts_{in}$ – 5.3571°
	> 5.7 Vdc and ≤ 10.8 Vdc	4.902°/Vdc*$Volts_{in}$ – 12.9414°
	> 10.8 Vdc	40°
Input Signal Connection:	(+) = J2-D06, (-) = J2-D07	
Input Reference Connection:	None	
External Validity Flag Connection:	None	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000300F	
External Validity Type:	None	

6.3.1.2.8 Flap Angle, 5 Wire Synchro (737-200)

Data Item	Value	
Signal Name:	FLAP ANGLE, 5 WIRE SYNCHRO	
AAC Algorithm:	5 Synchro (11.8 VAC)	
Signal Dynamic Range:	0° to 360° Synchro Angle (15.5 VAC max for 11.8 V synchro)	
Signal Reasonable Range:	0° to 360° Synchro Angle	
Reference Dynamic Range:	17 - 34 VAC	
Reference Reasonable Range:	None	
Scale:	**Synchro Angle**	**Flap Angle**
	> 315 º and ≤ 18 º	0 º
	> 18 º and ≤ 52 º	1°
	> 52 º and ≤ 94 º	2 º
	> 94 º and ≤ 131 º	5 º
	> 131 º and ≤ 165 º	10 º
	> 165 º and ≤ 195 º	15 º
	> 195 º and ≤ 225 º	25 º
	> 225 º and ≤ 255 º	30 º
	> 255 º and ≤ 315 º	40 º
Input Signal Connection:	(X) = J2-J13, (Y) = J2-J14, (Z) = J2-J15	
Input Reference Connection:	(H) = J2-G14, (C) = J2-G15	
External Validity Flag:	N/A	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	00003F0F	
External Validity Type:	None	

6.3.1.2.9 Flap Angle, DC-Selsyn (DC-8)

Data Item	Value	
Signal Name:	FLAP ANGLE, DC-Selsyn	
AAC Algorithm:	DC-Selsyn	
Signal Dynamic Range:	0 to 360° Selsyn Angle	
Signal Reasonable Range:	0 to 360° Selsyn Angle	
Reference Dynamic Range:	N/A	
Reference Reasonable Range:	N/A	
Scale:	**#1**	**#2**
	Flap° (in°) = DC-Selsyn Angle	Flap° (in°) = -1.0* DC-Selsyn
	Selsyn Angle	**Flap Angle**
	> 0° and ≤ 14.11°	0°
	> 14.11° and ≤ 130°	0.2588757* Selsyn Angle + 1.346°
	> 130° and ≤ 270°	0.364078* Selsyn Angle – 12.33°
	> 270°and ≤ 360°	0°
	#1	#2
Input Signal Connection:	(X) = J2-J13, (Y) = J2-J14, (Z) = J2-J15	(X) = J2-D2, (Y) = J2-D1, (Z) = J2-D3
Input Reference Connection:	None	None
External Validity Flag:	N/A	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000 3F0F	
External Validity Type:	None	

6.3.1.2.10 Flap Angle, DC, Cessna Citation Bravo (-206-206 and on)

Note: For p/n –204-204 section 6.3.1.2.7 defined this input.

Data Item	Value
Signal Name:	Flap Angle, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-6.4516° to +45.1613°
Signal Reasonable Range: (see note)	-3.87° to 42.58° (5% to 95% ratio)
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	Flap Angle (in°) = 51.6129° *V_{ratio} - 6.4516° (Note: Actual curve in not straight, Flap Angle is 15° at V_{ratio} of 0.475)
Input Signal Connection:	(+) = J2-J13, (-) = J2-J15
Input Reference Connection:	(+) = J2-G14, (-) = J2-G15
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

Note: Reasonableness range provides open wire monitoring for this input. It means that if the converted voltage indicates that the pot is not between 5% and 95% the input will be faulted. This will be the case if a wire breaks such that the input to the EGPWC would be either at the reference voltage (5VDC) or at 0 VDC.

6.3.1.2.11 Flap Angle, DC-Selsyn (C-130)

Data Item	Value	
Signal Name:	FLAP ANGLE, DC-Selsyn	
AAC Algorithm:	DC-Selsyn	
Signal Dynamic Range:	0 to 360° Selsyn Angle	
Signal Reasonable Range:	0 to 360° Selsyn Angle	
Reference Dynamic Range:	N/A	
Reference Reasonable Range:	N/A	
Scale:	Flap angle in % and DC-Selsyn Angle in °	
	Selsyn Angle	**Flap Angle Percent (See Note)**
	> 0° and < 180°	0 %
	≥ 180° and ≤ 360°	-0.5556*Selsyn Angle + 200%
Input Signal Connection:	(X) = J2-J13, (Y) = J2-J14, (Z) = J2-J15	
Input Reference Connection:	None	
External Validity Flag Connection:	N/A	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000 3F0F	
External Validity Type:	None	

Note: EGPWS documentation on flap processing is done in terms of degrees of flaps, not percent (where 100% represents full flaps down). Use flap break points numbers expressed in percent. This results in break point numbers that are significantly larger (2X or more) than typical applications with flap angle expressed in degrees. **No conversion to flap angle in degrees is required**.

6.3.1.2.12 Flap Angle, 5 Wire Synchro (C-141)

Data Item	Value	
Signal Name:	FLAP ANGLE, 5 WIRE SYNCHRO	
AAC Algorithm:	5 Synchro (11.8 VAC)	
Signal Dynamic Range:	±180° Synchro Angle (15.5 VAC max for 11.8 V synchro)	
Signal Reasonable Range:	±180° Synchro Angle	
Reference Dynamic Range:	17 - 34 VAC	
Reference Reasonable Range:	None	
Scale:	**Synchro Angle**	**Flap Angle (See Note)**
	> –180° and ≤ 0°	0
	>0° and ≤ 39°	Synchro Angle
	>39° and ≤ 180°	39
Input Signal Connection:	(X) = J2-J13, (Y) = J2-J14, (Z) = J2-J15	
Input Reference Connection:	(H) = J2-G14, (C) = J2-G15	
External Validity Flag Connection:	N/A	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	00003F0F	
External Validity Type:	None	

Note: The C141 uses flap angle expressed in percent (where 100% represents full flaps down) rather than degrees. Since the EGPWS Body AOA conversion table uses fixed breakpoint values that are incompatible the percentage scaling flaps are scaled using synchro degrees. Note that this scaling does not represent actual aircraft flap angle degrees.

6.3.1.2.13 Flap Angle, 5 Wire Synchro (DC-9-21,-30, 32 & C-9A, C)

Data Item	Value	
Signal Name:	FLAP ANGLE, 5 WIRE SYNCHRO	
AAC Algorithm:	5 Synchro (11.8 VAC)	
Signal Dynamic Range:	0° to 360° Synchro Angle (15.5 VAC max for 11.8 V synchro)	
Signal Reasonable Range:	0° to 360° Synchro Angle	
Reference Dynamic Range:	17 - 34 VAC	
Reference Reasonable Range:	None	
Scale:	**Synchro Angle**	**Flap Angle**
	> 270 º and ≤ 9 º	0 º
	> 9 º and ≤ 32 º	5 º
	> 32 º and ≤ 72 º	15 º
	> 72 º and ≤ 116 º	25 º
	> 116 º and ≤ 156 º	40 º
	> 156 º and ≤ 270 º	50 º
Input Signal Connection:	(X) = J2-J13, (Y) = J2-J14, (Z) = J2-J15	
Input Reference Connection:	(H) = J2-G15, (C) = J2-G14 Note: The DC-9 flap position synchro rotates opposite from normal rotation. This is why the polarity of the reference voltage is reversed from that typically used for this input.	
External Validity Flag:	N/A	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	00003F0F	
External Validity Type:	None	

6.3.1.2.14 Flap Angle, 5 Wire Synchro (L1011)

Data Item	Value	
Signal Name:	Flap Angle, 5 Wire Synchro	
AAC Algorithm:	5 Synchro (11.8 VAC)	
Signal Dynamic Range:	±180° Synchro Angle (15.5 VAC max)	
Signal Reasonable Range:	None	
Reference Dynamic Range:	17 to 34 VAC	
Reference Reasonable Range:	None	
Scale:	Flap Synchro Data 1	
	>90° and ≤4°	0°
	>4° and ≤13.4°	4°
	>13.4° and ≤23	10°
	>23° and ≤29°	18°
	>29° and ≤32.9°	22°
	>32.9° and ≤37.3°	27°
	>37.3° and ≤42°	33°
	>42° and ≤90°	42°
Input Signal Connection:	#1	
	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15	
Input Reference Connection:	(H)J2-G14 (C)J2-G15	
External Validity Flag :	None	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000 3F0F	
External Validity Type:	None	

6.3.1.2.15 Flap Angle, 5 Wire Synchro (Airbus A300)

Data Item	Value	
Signal Name:	Flap Angle, 5 Wire Synchro	
AAC Algorithm:	5 Synchro (11.8 VAC)	
Signal Dynamic Range:	±180° Synchro Angle (15.5 VAC max)	
Signal Reasonable Range:	None	
Reference Dynamic Range:	17 to 34 VAC	
Reference Reasonable Range:	None	
Scale:	Flap Synchro Data 1	Flap Angle Data 1
	>270° and ≤34°	0°
	>34° and ≤90°	8°
	>90° and ≤145	15°
	>145° and ≤270°	25°
Input Signal Connection:	#1	
	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15	
Input Reference Connection:	(H)J2-G14 (C)J2-G15	
External Validity Flag :	None	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000 3F0F	
External Validity Type:	None	

6.3.1.2.16 Flap Angle, 5 Wire Synchro (Boeing 747 SP)

Data Item	Value	
Signal Name:	Flap Angle, 5 Wire Synchro	
AAC Algorithm:	5 Synchro (11.8 VAC)	
Signal Dynamic Range:	±180° Synchro Angle (15.5 VAC max)	
Signal Reasonable Range:	None	
Reference Dynamic Range:	17 to 34 VAC	
Reference Reasonable Range:	None	
Scale:	Flap Synchro Data 1	Flap Angle Data 1
	>285° and ≤328° >328° and ≤348° >348° and ≤89 >89° and ≤203° >203° and ≤238° >238° and ≤285°	0° 1° 5° 10° 20° 30°
Input Signal Connection:	#1	
	(X) = J2-J13 (Y) = J2-J14 (Z) = J2-J15	
Input Reference Connection:	(H)J2-G14 (C)J2-G15	
External Validity Flag :	None	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000 3F0F	
External Validity Type:	None	

6.3.1.2.17 Flap Angle, 5 Wire Synchro (DC 9-10)

Data Item	Value	
Signal Name:	FLAP ANGLE, 5 WIRE SYNCHRO	
AAC Algorithm:	5 Synchro (11.8 VAC)	
Signal Dynamic Range:	±180° Synchro Angle (15.5 VAC max for 11.8 V synchro)	
Signal Reasonable Range:	±180° Synchro Angle	
Reference Dynamic Range:	17 - 34 VAC	
Reference Reasonable Range:	None	
Scale:	Flap Synchro Data	Flap Angle Data
	>252° and ≤0° >0° and ≤252°	0° 1°Synchro =0.277778° Flap Angle
Input Signal Connection:	(X) = J2-J13, (Y) = J2-J14, (Z) = J2-J15	
Input Reference Connection:	(H) = J2-G15, (C) = J2-G14 Note: The DC-9 flap position synchro rotates opposite from normal rotation. This is why the polarity of the reference voltage is reversed from that typically used for this input.	
External Validity Flag Connection:	N/A	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	00003F0F	
External Validity Type:	None	

6.3.1.2.18 Flap Angle DC Ratio (CITATION II/550)

Data Item	Value
Signal Name:	Flap Angle, DC Ratio (5 Volt)
AAC Algorithm:	DC Ratio (5 Volt)
Signal Dynamic Range:	-46.311° to 77.099°
Signal Reasonable Range:	-40.14° to 70.93° (5% to 95% ratio)
Reference Dynamic Range:	3.5 to 6.5 Vdc
Reference Reasonable Range:	4 to 6 Vdc
Scale:	Flap Angle (in°) = 123.41° *V_{ratio} - 46.311°
Input Signal Connection:	(+) = J2-J13, (-) = J2-J15
Input Reference Connection:	(+) = J2-G14, (-) = J2-G15
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	000030FF
External Validity Type:	None

6.3.1.3 Shaker Margin

6.3.1.3.1 Shaker Margin, 3 Wire Synchro

Data Item	Value
Signal Name:	Shaker Margin, 3 Wire Synchro
AAC Algorithm:	3 Synchro (11.8 VAC)
Signal Dynamic Range:	±95° Synchro Angle (15.5 VAC max)
Signal Reasonable Range:	±90° Synchro Angle
Reference Dynamic Range:	17 to 34 VAC (not supplied)
Reference Reasonable Range:	None
Scale:	1° Shaker Margin = 1° Synchro Angle 0° Shaker Margin = 0° Synchro Angle
Input Signal Connection:	(X) = J2-C01 (Y) = J2-C02 (Z) = J2-C03
Input Reference Connection:	None
External Validity Flag :	N/A
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000 3F0F
External Validity Type:	None

6.3.1.3.2 Shaker Margin, DC

Data Item	Value
Signal Name:	Shaker Margin, DC Voltage
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	±90° (±45 VDC)
Signal Reasonable Range:	±90° (±45 VDC)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Shaker Margin (in°) = 2°/Vdc*$Volts_{in}$
Input Signal Connection:	(+) = J2-J01, (-) = J2-J03
Input Reference Connection:	None
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	None

6.3.1.4 PLI Monitor

6.3.1.4.1 PLI Monitor, Internal

Data Item	Value	
Signal Name:	PLI MONITOR, DC Voltage	
AAC Algorithm:	DC Absolute	
Signal Dynamic Range:	±12,000 mV	
Signal Reasonable Range:	±11,000 mV	
Reference Dynamic Range:	None	
Reference Reasonable Range:	None	
Scale:	**#1**	**#2**
	PLI Monitor (mV) = $Volts_{in}$* 1000	PLI Monitor (mV) = $Volts_{in}$* 1000
	#1	**#2**
Input Signal Connection:	Channel Y3	Channel X10
Input Reference Connection:	None	None
External Validity Flag Connection:	N/A	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000300F	
External Validity Type:	None	

6.3.1.5 Engine Power

6.3.1.5.1 Engine Power, C-2A

Data Item	Value	
Signal Name:	Engine Power C-2A, DC Voltage	
AAC Algorithm:	DC Absolute	
Signal Dynamic Range:	-1.0 - 35 Vdc	
Signal Reasonable Range:	-1.0 - 29.7 Vdc (-1595.267 to 7205.4)	
Reference Dynamic Range:	None	
Reference Reasonable Range:	None	
Scale: (see Note)	286.667*V_{in} -1308.6	
Input Signal Connection:	**#1**	**#2**
	(+) J2-G12 , (-) J2-G13	(+) J2-H10, (-) J2-H11
Input Reference Connection:	None	None
External Validity Flag Connection:	None	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000000F[1]	
External Validity Type:	None	

Actual source is 0 to 90 Vdc, with the scale being 94.6.HP/Vdc. The signal is scaled to 0 – 29.7 Vdc nominal range by an external 243K series resistor in each leg.

[1] Was 0000300F in –212-212

6.3.2 Radio Altimeter

Document Revision History, Appendix A, Section 6.3.2

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
30-MAR-99 – A Loos	All	SCR 3722. New file split off from I76_APXA.DOC. Revision history for -208-208 and earlier are at the beginning of Section 6.	-	-
29-APR-99 – A Loos	6.3.2.4	SCR 3832: Add new section for LPIA Radio Altimeter	future	future
26-MAY-00 – M. Henderson	6.3.2.1	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
28-NOV-01 – N Paterson	All	SCR 6053: General cleanup		
11-JUN-02 – G Ostrom	6.3.2.1	SCR 6608: General document cleanup.	-	-

6.3.2.1 ARINC 552 Radio Altimeter

Data Item	Value		
Signal Name:	RADIO ALTITUDE, ARINC 552		
AAC Algorithm:	ARINC 552A Radio Altitude,		
Signal Dynamic Range:	-25 feet to 32767 counts		
Signal Reasonable Range:	-30 feet to 32767 counts		
Reference Dynamic Range:	None		
Reference Reasonable Range:	None		
Scale:	For Radio Altitude ≤ 480 feet: $Volts_{in} = (0.02 * RALT\ (ft)) + 0.4$ For Radio Altitude > 480 feet: $Volts_{in} = 10 \times (1 + Ln\ (\frac{RALT\ (ft) + 20}{500}))$		
Input Signal Connection:	**#1**	**#2**	**#3**
	(+) = J1B-20 (-) = J1B-21	(+) = J2-F08 (-) = J2-F09	(+) = J2-B11 (-) = J2-B12
Input Reference Connection:	None		
External Validity Flag :	**#1**	**#2**	**#3**
Connection	J1B-19	J1A-04	J2-B10
AAC FIFO LSB:	Table 6-1		
AAC Signal Scheduling:	Table 6-1		
AAC Status Mask:	0000C004		
External Validity Type:	Discrete Validity, 28 V		

6.3.2.2 ALT 55 Radio Altimeter

Data Item	Value		
Signal Name:	RADIO ALTITUDE, ALT 55		
AAC Algorithm:	DC Special,		
Signal Dynamic Range:	-25 feet to 32767 counts		
Signal Reasonable Range:	-30 feet to 32767 counts		
Reference Dynamic Range:	None		
Reference Reasonable Range:	None		
Scale:	For Radio Altitude ≤ 500 feet (≤ 10.4 Vdc): $Volts_{in}$ = (0.02 * RALT) + 0.4 or RALT (ft) = 50 ft/Vdc * $Volts_{in}$ - 20 ft For Radio Altitude > 500 feet (> 10.4 Vdc): $Volts_{in}$ = 0.003 * (RALT -500) + 10.4 or RALT (ft) = 333.3333 ft/Vdc * $Volts_{in}$ - 2966.6667 ft		
Input Signal Connection:	**#1**	**#2**	**#3**
	(+) = J1B-20 (-) = J1B-21	(+) = J2-F08 (-) = J2-F09	(+) = J2-B11 (-) = J2-B12
Input Reference Connection:	None		
External Validity Flag :	**#1**	**#2**	**#3**
Connection	J1B-19	J1A-04	J2-B10
AAC FIFO LSB:	Table 6-1		
AAC Signal Scheduling:	Table 6-1		
AAC Status Mask:	0000C004		
External Validity Type:	Discrete Validity, 28 V		

6.3.2.3 APN-171/APN-232 (CARA) Radar Altimeter

Data Item	Value
Signal Name:	RADIO ALTITUDE, APN-171/APN-232
AAC Algorithm:	DC Absolute,
Signal Dynamic Range:	-2.0 to 48 VDC (-250 feet to 6000 feet)
Signal Reasonable Range:	-0.24 to 42.4 VDC (-30 feet to 5300 feet)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Radio Altitude (in Ft) = 125 feet/ Vdc * $Volts_{in}$
Input Signal Connection:	(+) = J2-G12 (Connect to APN-171/232 Signal(-)) (-) = J2-G13 (Connect to APN-171/232 Signal(+)) Input is inverted to maintain wiring compatibility with MK VII GPWS installations.
Input Reference Connection:	None
External Validity Flag Connection:	J1B-19 (Track – No Track)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	Discrete Validity, 28 V

6.3.2.4 LPIA-194 Radar Altimeter (Navy C-2A, VP/UP-3)

Data Item	Value		
Signal Name:	RADIO ALTITUDE, LPIA-194 – see note		
AAC Algorithm:	DC Special,		
Signal Dynamic Range:	-50 feet to 8100 feet (0.0 to 29.097 Vdc)		
Signal Reasonable Range:	-30 feet to 7800 feet (0.4 to 28.314 Vdc)		
Reference Dynamic Range:	None		
Reference Reasonable Range:	None		
Scale:	Volts DC	Radio Altitude in Feet	
	≥0 to < 9	50* $Volts_{in}$ -50	
	≥ 9 to ≤ 29.097	383.142* $Volts_{in}$ -3048.278	
Input Signal Connection:	**#1**	**#2**	**#3**
	(+) = J1B-20 (-) = J1B-21	(+) = J2-F08 (-) = J2-F09	(+) = J2-B11 (-) = J2-B12
Input Reference Connection:	None		
External Validity Flag :	**#1**	**#2**	**#3**
Connection	None	None	None
AAC FIFO LSB:	Table 6-1		
AAC Signal Scheduling:	Table 6-1		
AAC Status Mask:	0000C004		
External Validity Type:	None – see note.		

Note: Connect to LPIA pin F on J101. Output during search (Out of Track) is +24.5 ±1.0V. Output for BIT Failure is +27.0 ±1.0V. Reliability Signal from LPIA pin H on J101 is not used.

6.3.3 Air Data

Document Revision History, Appendix A, Section 6.3.3

Date – Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
30-MAR-99 – A Loos	All	SCR 3722. New file split off from I76_APXA.DOC. Revision history for -208-208 and earlier are at the beginning of Section 6.	-	-
06-April-99 – A Loos	6.3.3.4.1 and 6.3.3.4.4	SCR 3743: Revised scaling to provide a closer match over complete temperature range.	-	-210
08-April-99 – MJC	6.3.3.1.6 6.3.3.3.7	SCR 3763: Added ARINC 575 DC Mach & Altitude Rate.	-	-210
15-April-99 – MJC	6.3.3.2.15 6.3.3.2.16 6.3.3.2.17 6.3.3.2.18	SCR 3764: Added additional Coarse/Fine Corrected Altitude inputs to these sections.	-	-210
10-MAY-99 – MJC	6.3.3.2.17 6.3.3.2.18	SCRs 3763/3764: Deleted these two sections to back out SCR 3764. SCR 3763 covers addition of 6.3.3.2.15 & 6.3.3.2.16.	-	-210
17-MAY-99 BKO	6.3.3.3.5	SCR 3891: Added tracing to 6.3.3.3.5. Also added Year to audit on 10-MAY-99.		
08-JUL-99 – MJC	6.3.3.4.5	SCR 4018: Added analog TAT definition in 6.3.3.4.5. Refer to ADC ID #28 for an example of its use.	-	-210
23-JUL-99 – MJC	6.3.3.4.5	SCR 4018: Added signal dynamic/reasonable voltage ranges.	-	-210
06-NOV-99 - JDK	6.3.3.4.5	SCR 4334: General document clean up	-	-
10-JAN-00 – MJC	Added 6.3.3.2.17 6.3.3.2.18	SCR 4730: Added AZ-241 Corrected Baro Altitude Coarse/Fine inputs.	-	-212
17-MAR-00 – MJC	Revised 6.3.3.2.17	SCR 4730: Updated AZ-241 Coarse Altitude input scaling and corrected reference pin numbers.	-	-212
27-MAR-00 – MJC	Revised 6.3.3.2.17 6.3.3.2.18	SCR 4730: Revised AZ-241 Coarse Altitude reference input pins and swapped SIN/COS fine input pins.	-	-212
02-JUN-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
19-Mar-02 – A Loos	6.3.3.1.7 6.3.3.2.19 6.3.3.2.20 6.3.3.3.8	SCR 6792: Add new signals for Concorde Air Data System.	-216	-216
02-Apr-02 – A Anderson	6.3.3.2.20	SCR 6792: Corrected Input Signal Connection.	-216	-216
04-DEC-02 – M Calhoun	6.3.3.3.7	SCR 7306: Changed the limits of the Mach signal dynamic and reasonable values (0 to 11 VDC).	-217	-217
21-JAN-03 – M Calhoun	6.3.3.3.7	SCR 7306: Changed the lower limit of the Mach signal dynamic and reasonable values from 0 to -.03125 (-1 LSB) due to characteristics of the AAC algorithms.	-217	-217

6.3.3.1 Barometric Altitude Rate

6.3.3.1.1 Barometric Altitude Rate (DC)

Data Item	Value
Signal Name:	Altitude Rate, DC Voltage
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	± 12,000 FPM (± 6 Vdc)
Signal Reasonable Range:	± 10,000 FPM (± 5 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Alt Rate (FPM) = 2000 FPM/Vdc * $Volts_{in}$
Input Signal Connection:	(+) = J2-K04, (-) = J2-K05 & J2-K07 (Connection to J2-K07 is not required, shown only to retain compatibility with MK VII installation)
Input Reference Connection:	None
External Validity Flag Connection:	J1B-27 (Common with Coarse Altitude, DC)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	Discrete Validity, 28 V

6.3.3.1.2 Barometric Altitude Rate (AC Ratio), ARINC 565

Data Item	Value
Signal Name:	Barometric Altitude Rate (AC) (ARINC 565)
AAC Algorithm:	AC Ratio (5V signal, 26V reference)
Signal Dynamic Range:	± 20,000 FPM (6.54 VAC max @ high line)
Signal Reasonable Range:	± 11,000 FPM
Reference Dynamic Range:	17 - 34 VAC
Reference Reasonable Range:	17 - 34 VAC
Scale:	Alt Rate (FPM)= 4000 FPM/Vac * $Volt_{in}$, in phase = positive
Input Signal Connection:	(+) = J1B-37, (-) = J1B-38
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40
External Validity Flag Connection:	J1B-27 (Common Validity with ARINC 565 Coarse Alt))
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003EFF
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.1.3 Barometric Altitude Rate (DC Ratio), Honeywell AZ-241

Data Item	Value
Signal Name:	Barometric Altitude Rate, Honeywell AZ-241
AAC Algorithm:	DC Special, 3 Wire DC Baro Rate
Signal Dynamic Range:	± 12,000 FPM (6 Vdc)
Signal Reasonable Range:	± 11,000 FPM (5.5 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Alt Rate (FPM)= 2000 FPM/Vdc * $Volt_{in}$, (+$Volt_{in}$ is +FPM) (0.5 Vdc/1000 FPM)
Input Signal Connection:	(Input Signal) = J1B-28, (+12) = J1B-29, (-12) = J1B-30
Input Reference Connection:	None
External Validity Flag Connection:	J1B-27 (Common Validity with Honeywell AZ-241 Uncorrected Baro Alt))
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000C00C
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.1.4 Barometric Altitude Rate (DC), CIC 02942

Data Item	Value
Signal Name:	Altitude Rate, DC Voltage
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	± 22,000 FPM (± 11 Vdc)
Signal Reasonable Range:	± 20,000 FPM (± 10 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Alt Rate (FPM) = 2000 FPM/Vdc * $Volts_{in}$
Input Signal Connection:	(+) = J2-K04, (-) = J2-K05
Input Reference Connection:	None
External Validity Flag Connection:	J1B-27 (Common with Coarse Altitude, DC)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.1.5 Baro Rate From Fine Synchro (5 Wire Synchro), ARINC 565 (AZ-242/800)/C-141 SCADC

Data Item	Value	
Signal Name:	Baro Rate From Fine Synchro, ARINC 565/C-141 SCADC	
AAC Algorithm:	5 Synchro (11.8 VAC)	
Signal Dynamic Range:	±180 deg synchro, (15.5 VAC max)	
Signal Reasonable Range:	None	
Reference Dynamic Range:	17 to 34 VAC	
Reference Reasonable Range:	None	
Scale:	Direct Synchro Angle – Unit conversion internal to EGPWS	
	#1	**#2**
Input Signal Connection:	(X) = J1A-8, (Y) = J1A-9, (Z) = J1A-10	(X) = J2-J8, (Y) = J2-J9 (Z) = J2-J10
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40	(H) = J2-K6, (C) = J2-K7
External Validity Flag Connection:	J1B-27 (Common Validity with Uncorrected Barometric Altitude (Coarse) #1)	J2-D11 (Common Validity with Uncorrected Barometric Altitude (Coarse) #2)
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	00003F0F	
External Validity Type:	Discrete Validity, 28 VDC	

6.3.3.1.6 Barometric Altitude Rate (DC Ratio), ARINC 575

Data Item	Value
Signal Name:	Barometric Altitude Rate, ARINC 575
AAC Algorithm:	DC Special, 3 Wire DC Baro Rate
Signal Dynamic Range:	± 12,000 FPM (6 Vdc)
Signal Reasonable Range:	± 11,000 FPM (5.5 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Alt Rate (FPM)= 2000 FPM/Vdc * $Volt_{in}$, (+$Volt_{in}$ is +FPM) (0.5 Vdc/1000 FPM)
Input Signal Connection:	(Input Signal) = J1B-28, (+12) = J1B-29, (-12) = J1B-30
Input Reference Connection:	None
External Validity Flag Connection:	J1B-27
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000C00C
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.1.7 Barometric Altitude Rate (AC Ratio), CROUZET 87232057

Data Item	Value
Signal Name:	Barometric Altitude Rate (AC)
AAC Algorithm:	AC Ratio (5V signal, 26V reference)
Signal Dynamic Range:	± 30,000 FPM (7.85 VAC max @ high line)
Signal Reasonable Range:	± 20,000 FPM
Reference Dynamic Range:	17 - 34 VAC
Reference Reasonable Range:	17 - 34 VAC
Scale:	Alt Rate (FPM)= 5000 FPM/Vac * $Volt_{in}$, in phase = positive
Input Signal Connection:	(+) = J1B-37, (-) = J1B-38
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40
External Validity Flag Connection:	J2-G05
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003EFF
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2 Barometric Altitude

6.3.3.2.1 Standby Altimeter Altitude Correction (Reserved)

6.3.3.2.2 Uncorrected Baro Altitude, DC

Data Item	Value
Signal Name:	Uncorrected Baro Altitude, DC Voltage
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	± 44,000 Feet (± 11 Vdc)
Signal Reasonable Range:	± 40,000 Feet (± 10 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Altitude (Feet) = 4000 Feet/Vdc * Volts
Input Signal Connection:	(+) = J2-E06, (-) = J2-E07
Input Reference Connection:	None
External Validity Flag Connection:	J1B-27 (Common with Altitude Rate, DC)
AAC FIFO LSB:	2 Feet
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.3 Corrected Baro Altitude (DC)

Data Item	Value
Signal Name:	Corrected Baro Altitude, DC Voltage
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	± 44,000 Feet (± 11 Vdc)
Signal Reasonable Range:	± 40,000 Feet (± 10 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Altitude (Feet) = 4000 Feet/Vdc * $Volts_{in}$
Input Signal Connection:	(+) = J2-H06, (-) = J2-H08
Input Reference Connection:	None
External Validity Flag Connection:	J1B-27 (Common with Altitude Rate, DC)
AAC FIFO LSB:	2 Feet
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.4 Corrected Barometric Altitude, Coarse (5 Wire Synchro), ARINC 565

Data Item	Value
Signal Name:	5 Wire Synchro, Coarse Barometric Altitude, ARINC 565
AAC Algorithm:	5 Synchro (11.8 VAC)
Signal Dynamic Range:	±67,500 feet (0-360 deg synchro, 15.5 VAC max)
Signal Reasonable Range:	-2,000 to 51,000 feet
Reference Dynamic Range:	17 to 34 VAC
Reference Reasonable Range:	None
Scale:	Baro Alt (ft)= 375 ft/Deg * Synchro Angle, 0° = 0 Feet
Input Signal Connection:	(X) = J2-H06, (Y) = J2-H07, (Z) = J2-H08
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40
External Validity Flag Connection:	J1B-27 (Common Validity with ARINC 565 Barometric Altitude Rate)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.5 Corrected Barometric Altitude, Fine (5 Wire Synchro) , ARINC 565

Data Item	Value
Signal Name:	5 Wire Synchro, Fine Barometric Altitude, ARINC 565
AAC Algorithm:	5 Synchro (11.8 VAC)
Signal Dynamic Range:	0 - 5000 feet (0-360 deg synchro, 15.5 VAC max)
Signal Reasonable Range:	None
Reference Dynamic Range:	17 to 34 VAC
Reference Reasonable Range:	None
Scale:	Baro Alt (ft)= 13.8889 ft/Deg * Synchro Angle, 0° = 0 Feet
Input Signal Connection:	(X) = J1A-08, (Y) = J1A-09, (Z) = J1A-10
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40
External Validity Flag Connection:	J1B-27 (Common Validity with ARINC 565 Barometric Altitude Rate)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.6 Uncorrected Barometric Altitude, Coarse (5 Wire Synchro), ARINC 565

Data Item	Value
Signal Name:	5 Wire Synchro, Coarse Barometric Altitude, ARINC 565
AAC Algorithm:	5 Synchro (11.8 VAC)
Signal Dynamic Range:	±67,500 feet (0-360 deg synchro, 15.5 VAC max)
Signal Reasonable Range:	-2,000 to 51,000 feet
Reference Dynamic Range:	17 to 34 VAC
Reference Reasonable Range:	None
Scale:	Baro Alt (ft)= 375 ft/Deg * Synchro Angle, 0° = 0 Feet
Input Signal Connection:	(X) = J2-H06, (Y) = J2-H07, (Z) = J2-H08
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40
External Validity Flag Connection:	J1B-27 (Common Validity with ARINC 565 Barometric Altitude Rate)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.7 Uncorrected Barometric Altitude, Fine (5 Wire Synchro) , ARINC 565

Data Item	Value
Signal Name:	5 Wire Synchro, Fine Barometric Altitude, ARINC 565
AAC Algorithm:	5 Synchro (11.8 VAC)
Signal Dynamic Range:	0 - 5000 feet (0-360 deg synchro, 15.5 VAC max)
Signal Reasonable Range:	None
Reference Dynamic Range:	17 to 34 VAC
Reference Reasonable Range:	None
Scale:	Baro Alt (ft)= 13.8889 ft/Deg * Synchro Angle, 0° = 0 Feet
Input Signal Connection:	(X) = J1A-08, (Y) = J1A-09, (Z) = J1A-10
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40
External Validity Flag Connection:	J1B-27 (Common Validity with ARINC 565 Barometric Altitude Rate)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.8 Uncorrected Barometric Altitude, DC, Honeywell AZ-241

Data Item	Value
Signal Name:	Uncorrected Baro Altitude, DC Voltage
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	-3750 to +52,750 feet (0.0 Vdc to 11.30 Vdc)
Signal Reasonable Range:	-1000 to +50,000 feet (+0.55 Vdc to +10.75 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Altitude (Feet) = 5000 Feet/Vdc *$Volts_{in}$-3750 (0.2 mVdc/foot, 0.75 Vdc = 0 feet)
Input Signal Connection:	(+) = J2-E06, (-) = J2-E07
Input Reference Connection:	None
External Validity Flag Connection:	J1B-27 (Common with Altitude Rate, DC)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.9 Uncorrected Baro Altitude, DC, CIC 02942

Data Item	Value
Signal Name:	Uncorrected Baro Altitude, DC Voltage
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	- 4,074.964 to 52,574.964ft (–11Vdc to +11Vdc)
Signal Reasonable Range:	-1500ft to 50,000 ft (–10Vdc to +10Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Altitude (Feet) = 2,574.99678 Feet/Vdc * $Volts_{in}$ **+** 24,250ft (.38835mv/ft) (-1500ft=-10Vdc, 0ft=–9.418Vdc, 50,000=+10Vdc)
Input Signal Connection:	(+) = J2-E06, (-) = J2-E07
Input Reference Connection:	None
External Validity Flag Connection:	J1B-27 (Common with Altitude Rate, DC)
AAC FIFO LSB:	2 Feet
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.10 Corrected Barometric Altitude, Coarse (5 Wire Synchro), ARINC 565

Data Item	Value
Signal Name:	5 Wire Synchro, Coarse Barometric Altitude, ARINC 565
AAC Algorithm:	5 Synchro (11.8 VAC)
Signal Dynamic Range:	±67,500 feet (0-360 deg synchro, 15.5 VAC max)
Signal Reasonable Range:	-2,000 to 51,000 feet
Reference Dynamic Range:	17 to 34 VAC
Reference Reasonable Range:	None
Scale:	Baro Alt (ft)= 375 ft/Deg * Synchro Angle, 0° = 0 Feet
Input Signal Connection:	(X) = J2-J1, (Y) = J2-J2, (Z) = J2-J3
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40
External Validity Flag Connection:	J1B-27 (Common Validity with ARINC 565 Barometric Altitude Rate)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.11 Corrected Barometric Altitude, Fine (5 Wire Synchro), ARINC 565

Data Item	Value
Signal Name:	5 Wire Synchro, Fine Barometric Altitude, ARINC 565
AAC Algorithm:	5 Synchro (11.8 VAC)
Signal Dynamic Range:	0 - 5000 feet (0-360 deg synchro, 15.5 VAC max)
Signal Reasonable Range:	None
Reference Dynamic Range:	17 to 34 VAC
Reference Reasonable Range:	None
Scale:	Baro Alt (ft)= 13.8889 ft/Deg * Synchro Angle, 0° = 0 Feet
Input Signal Connection:	(X) = J2-D8, (Y) = J2-D9 (Z) = J2-D10
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40
External Validity Flag Connection:	J1B-27 (Common Validity with ARINC 565 Barometric Altitude Rate)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.12 Uncorrected Barometric Altitude, Coarse (5 Wire Synchro), C-141 SCADC

Data Item	Value	
Signal Name:	5 Wire Synchro, Coarse Barometric Altitude, C-141 SCADC	
AAC Algorithm:	5 Synchro (11.8 VAC)	
Signal Dynamic Range:	±67,500 feet (0-360 deg synchro, 15.5 VAC max)	
Signal Reasonable Range:	-2,000 to 61,000 feet	
Reference Dynamic Range:	17 to 34 VAC	
Reference Reasonable Range:	None	
Scale:	Baro Alt (ft)= 375 ft/Deg * Synchro Angle, 0° = 0 Feet	
	#1	**#2**
Input Signal Connection:	(X) = J2-J1, (Y) = J2-J2 (Z) = J2-J3	(X) = J2-H06, (Y) = J2-H07 (Z) = J2-H08
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40	(H) = J2-K6, (C) = J2-K7
External Validity Flag Connection:	J1B-27 (Common Validity with Uncorrected Barometric Altitude (Fine) #1)	J2-D11 (Common Validity with Uncorrected Barometric Altitude (Fine) #2)
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	00003F0F	
External Validity Type:	Discrete Validity, 28 VDC	

6.3.3.2.13 Corrected Barometric Altitude, Coarse (5 Wire Synchro), non-ARINC standard, L1011 aircraft

Data Item	Value
Signal Name:	5 Wire Synchro, Coarse Barometric Altitude, non-ARINC
AAC Algorithm:	5 Synchro (11.8 VAC)
Signal Dynamic Range:	±64,000 feet (0-360 deg synchro, 15.5 VAC max)
Signal Reasonable Range:	-2,000 to 51,000 feet
Reference Dynamic Range:	17 to 34 VAC
Reference Reasonable Range:	None
Scale:	Baro Alt (ft)= 355.5556 ft/Deg * Synchro Angle, 0° = 0 Feet
Input Signal Connection:	(X) = J2-J01, (Y) = J2-J02, (Z) = J2-J03
Input Reference Connection:	(H) = J2-G08, (C) = J2-G09
External Validity Flag Connection:	J2-C05
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.14 Corrected Barometric Altitude, Fine (5 Wire Synchro), non-ARINC standard, L1011 aircraft

Data Item	Value
Signal Name:	5 Wire Synchro, Fine Barometric Altitude, non-ARINC
AAC Algorithm:	5 Synchro (11.8 VAC)
Signal Dynamic Range:	0 – 13,750 feet (0-360 deg synchro, 15.5 VAC max)
Signal Reasonable Range:	None
Reference Dynamic Range:	17 to 34 VAC
Reference Reasonable Range:	None
Scale:	Baro Alt (ft)= 38.1944 ft/Deg * Synchro Angle, 0° = 0 Feet
Input Signal Connection:	(X) = J2-D08, (Y) = J2-D09, (Z) = J2-D10
Input Reference Connection:	(H) = J2-G08, (C) = J2-G09
External Validity Flag Connection:	J2-C05
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.15 Dual Corrected Barometric Altitude, Coarse (5 Wire Synchro), ARINC 565

Data Item	Value	
Signal Name:	5 Wire Synchro, Coarse Barometric Altitude, ARINC 565	
AAC Algorithm:	5 Synchro (11.8 VAC)	
Signal Dynamic Range:	±67,500 feet (0-360 deg synchro, 15.5 VAC max)	
Signal Reasonable Range:	-2,000 to 51,000 feet	
Reference Dynamic Range:	17 to 34 VAC	
Reference Reasonable Range:	None	
Scale:	Baro Alt (ft)= 375 ft/Deg * Synchro Angle, 0° = 0 Feet	
Input Signal Connection:	#1	#2
	(X) = J2-J01, (Y) = J2-J02, (Z) = J2-J03	(X) = J2-H06, (Y) = J2-H07, (Z) = J2-H08
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40	(H) = J2-G08, (C) = J2-G09
External Validity Flag Connection:	None	None
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	00003F0F	
External Validity Type:	None	

6.3.3.2.16 Dual Corrected Barometric Altitude, Fine (5 Wire Synchro) , ARINC 565

Data Item	Value	
Signal Name:	5 Wire Synchro, Fine Barometric Altitude, ARINC 565	
AAC Algorithm:	5 Synchro (11.8 VAC)	
Signal Dynamic Range:	0 - 5000 feet (0-360 deg synchro, 15.5 VAC max)	
Signal Reasonable Range:	None	
Reference Dynamic Range:	17 to 34 VAC	
Reference Reasonable Range:	None	
Scale:	Baro Alt (ft)= 13.8889 ft/Deg * Synchro Angle, 0° = 0 Feet	
Input Signal Connection:	#1	#2
	(X) = J2-D08, (Y) = J2-D09, (Z) = J2-D10	(X) = J1A-08, (Y) = J1A-09, (Z) = J1A-10
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40	(H) = J2-G08, (C) = J2-G09
External Validity Flag Connection:	None	None
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	00003F0F	
External Validity Type:	None	

6.3.3.2.17 Corrected Baro Altitude, Coarse, AZ-241 DC Ratio

Data Item	Value
Signal Name:	Corrected Baro Altitude, DC Voltage
AAC Algorithm:	DC Ratio
Signal Dynamic Range:	-2,000 to 52,000 Feet (2.1 to 12.9 Vdc)
Signal Reasonable Range:	-1,000 to 50,000 Feet (2.3 to 12.5 Vdc)
Reference Dynamic Range:	12 to 18 VDC
Reference Reasonable Range:	13 to 17 VDC
Scale:	Altitude (feet) = $[(V_{in} - 2.5) \bullet 5000] \div [V_{ref} \div 15]$ $= 75000 \bullet V_{ratio} - 12500$ Note: Scale is 0.2 mv/foot, indexed to 2.5 VDC at sea level.
Input Signal Connection:	(+) = J2-H06, (-) = J2-H08
Input Reference Connection:	(+) = J2-K06, (-) = J2-K07
External Validity Flag Connection:	J1B-27 (Common validity with Barorate)
AAC FIFO LSB:	2 Feet
AAC Signal Scheduling:	Table 6-1
7AAC Status Mask:	000030FF
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.18 Corrected Barometric Altitude, Fine, AZ-241 Sin/Cos Resolver

Data Item	Value
Signal Name:	3 Wire Sin/Cos Resolver, Fine Barometric Altitude
AAC Algorithm:	Sin/Cos Resolver (9 VAC)
Signal Dynamic Range:	0 - 5000 feet (0-360 deg synchro, 9.5 VAC max)
Signal Reasonable Range:	None
Reference Dynamic Range:	17 to 34 VAC
Reference Reasonable Range:	None
Scale:	Fine Alt (ft)= 13.8889 ft/Deg • Φ°, 0° = 0 Feet, where Φ° = Resolver Angle (degs) SIN output = E • SIN Φ° COS output = E • COS Φ° E = 9.0 ± 0.5 VAC RMS
Input Signal Connection:	(COS) = J2-J01 (SIN) = J2-J02 (common) = J2-J03
Input Reference Connection:	(H) = J1B-39 , (C) = J1B-40
External Validity Flag Connection:	J1B-27 (Common validity with Barorate)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.19 Uncorrected Barometric Altitude, Coarse (5 Wire Synchro), CROUZET 87232057

Data Item	Value
Signal Name:	5 Wire Synchro, Coarse Barometric Altitude, Crouzet 87232057
AAC Algorithm:	5 Synchro (11.8 VAC)
Signal Dynamic Range:	±67,500 feet (0-360 deg synchro, 15.5 VAC max)
Signal Reasonable Range:	-2,000 to 65,000 feet (354.667° thru 0.0° to 173.333° synchro angle)
Reference Dynamic Range:	17 to 34 VAC
Reference Reasonable Range:	None
Scale:	Baro Alt (ft)= 375/Deg * Synchro Angle,0° = 0 feet
Input Signal Connection:	(X) = J2-H06, (Y) = J2-H07, (Z) = J2-H08
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40
External Validity Flag Connection:	J1B-27 (Common Validity with Barometric Altitude Rate)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.2.20 Corrected Barometric Altitude, Coarse (5 Wire Synchro), JAEGER 60120-000-1

Data Item	Value
AAC Algorithm:	5 Synchro (11.8 VAC), Jaeger 60120-000-1
Signal Dynamic Range:	±67,500 feet (0-360 deg synchro, 15.5 VAC max)
Signal Reasonable Range:	-2,000 to 65,000 feet (354.667° thru 0.0° to 173.333° synchro angle)
Reference Dynamic Range:	17 to 34 VAC
Reference Reasonable Range:	None
Scale:	Baro Alt (ft)= 375/Deg * Synchro Angle, 0° = 0 feet
Input Signal Connection:	(X) = J2-J1, (Y) = J2-J2, (Z) = J2-J3
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40
External Validity Flag Connection:	J1B-27 (Common Validity with Barometric Altitude Rate)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.3 Airspeed

6.3.3.3.1 Computed Airspeed ARINC 565(CAS), 5 Wire Synchro (11.8 V)

Data Item	Value
Signal Name:	Computed Airspeed ARINC 565(CAS)
AAC Algorithm:	5 Wire Synchro (11.8V)
Signal Dynamic Range:	0 - 500 Knots (0-360 deg synchro, 15.5 VAC max)
Signal Reasonable Range:	0 - 480 Knots
Reference Dynamic Range:	17 - 34 VAC
Reference Reasonable Range:	None
Scale:	CAS (kts) = 1.388889 kts/deg * Synchro Angle + 100 kts (1.388889 kts/deg = 500kts/360°)
Input Signal Connection:	(X) = J1A-36, (Y) = J1A-37, (Z) = J1A-38
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40
External Validity Flag Connection:	J2-G05
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.3.2 Calibrated Airspeed (CAS) (DC)

Data Item	Value
Signal Name:	Calibrated Airspeed, DC
AAC Algorithm:	DC Absolute,
Signal Dynamic Range:	0 to 480 kts (0 to 12 Vdc)
Signal Reasonable Range:	0 to 400 kts (0 to 10 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	CAS (kts) = 40 Kts/Vdc * $Volts_{in}$
Input Signal Connection:	(+) = J2-D6, (-) = J2-D7
Input Reference Connection:	None
External Validity Flag Connection:	J2-G5
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.3.3 Indicated Airspeed (CAS) (DC), Honeywell AZ-241

Data Item	Value
Signal Name:	Indicated Airspeed, DC
AAC Algorithm:	DC Absolute,
Signal Dynamic Range:	0 to 540 kts (0 to 6 Vdc)
Signal Reasonable Range:	0 to 450 kts (0 to 5 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	CAS (kts) = 90 Kts/Vdc * $Volts_{in}$ (0.011111 Vdc/kt)
Input Signal Connection:	(+) = J1A-39, (-) = J1A-40
Input Reference Connection:	None
External Validity Flag Connection:	J2-G5
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.3.4 Indicated Airspeed (CAS) (DC), CIC 02942/AZ-242/AZ-800

Data Item	Value
Signal Name:	Indicated Airspeed, DC
AAC Algorithm:	DC Absolute,
Signal Dynamic Range:	0 to 540 kts (0 to 12 Vdc)
Signal Reasonable Range:	25 to 450 kts (0.555 to 10 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	CAS (kts) = 45.045 Kts/Vdc * $Volts_{in}$ (22.2mvdc/kt)
Input Signal Connection:	(+) = J1A-39, (-) = J1A-40
Input Reference Connection:	None
External Validity Flag Connection:	J2-G5
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.3.5 Computed Airspeed ARINC 545(CAS), 5 Wire Synchro (11.8 V)

Data Item	Value
Signal Name:	Computed Airspeed ARINC 545(CAS)
AAC Algorithm:	5 Wire Synchro (11.8V)
Signal Dynamic Range:	0 – 540 Knots (0-360 deg synchro, 15.5 VAC max)
Signal Reasonable Range:	0 – 480 Knots
Reference Dynamic Range:	17 – 34 VAC
Reference Reasonable Range:	None
Scale:	CAS (kts) = 1.500 kts/deg * Synchro Angle + 100 kts (1.500 kts/deg = 540kts/360°)
Input Signal Connection:	(X) = J1A-36, (Y) = J1A-37, (Z) = J1A-38
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40
External Validity Flag Connection:	J2-G05
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	6.3.3.3.5.1 6.3.3.3.5.1 00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.3.6 Calibrated Airspeed, C-141 SCADC, 5 Wire Synchro (11.8 V)

Data Item	Value	
Signal Name:	Calibrated Airspeed, C-141 SCADC, (CAS)	
AAC Algorithm:	5 Wire Synchro (11.8V)	
Signal Dynamic Range:	50 - 500 Knots (0-360 deg synchro, 15.5 VAC max)	
Signal Reasonable Range:	50 - 500 Knots (0-360 deg synchro, 15.5 VAC max)	
Reference Dynamic Range:	17 - 34 VAC	
Reference Reasonable Range:	None	
Scale:	**Synchro Angle in °**	**CAS**
	≥ 0° and < 133.333°	100 Kts + 3 Kts/° *Angle
	≥ 133.333° and <180°	500 Kts
	≥ 180° and < 343.333°	50 Kts
	≥ 343.333° and < 360°	100 Kts + 3 Kts/° *(Angle - 360°)
	#1	**#2**
Input Signal Connection:	(X) = J1A-36, (Y) = J1A-37 (Z) = J1A-38	(X) = J2-D8, (Y) = J2-D9 (Z) = J2-D10
Input Reference Connection:	(H) = J2-E06 (C) = J2-E07	(H) = J2-E8 (C) = J2-E9
External Validity Flag Connection:	J2-G05	J2-D04
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	00003F0F	
External Validity Type:	Discrete Validity, 28 VDC	

6.3.3.3.7 Mach (DC), ARINC 575

Data Item	Value	
Signal Name:	Mach, DC	
AAC Algorithm:	DC Absolute,	
Signal Dynamic Range:	-0.03125 to 638.5 kts (-0.3 to 11 Vdc)	
Signal Reasonable Range:	-0.03125 to 638.5 kts (-0.3 to 11 Vdc)	
Reference Dynamic Range:	None	
Reference Reasonable Range:	None	
Scale:	Mach converted to kts per classic MKVII as follows: (0.017699 Vdc/kt)	
	Voltage in	Knots
	< 0.23 Vdc	56.5 Kts/Vdc * $Volts_{in}$ + 17
	≥ 0.23 Vdc and < 1.64 Vdc	50
	≥ 1.64 Vdc	56.5 Kts/Vdc * $Volts_{in}$ + 17
Input Signal Connection:	(+) = J1A-39, (-) = J1A-40	
Input Reference Connection:	None	
External Validity Flag Connection:	J1B-27 (Common Validity with ARINC 565 Barometric Altitude Rate)	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000300F	
External Validity Type:	Discrete Validity, 28 VDC	

6.3.3.3.8 Computed Airspeed, 5 Wire Synchro (11.8 V), JAEGER 60120-000-1

Data Item	Value
Signal Name:	Computed Airspeed, Jaeger 60120-000-1
AAC Algorithm:	5 Wire Synchro (11.8V)
Signal Dynamic Range:	0 – 720 Knots (-25° thru 0.0° to 155° synchro angle, 15.5 VAC max)
Signal Reasonable Range:	0 – 650 Knots (-25° thru 0.0° to 137.5° synchro angle)
Reference Dynamic Range:	17 – 34 VAC
Reference Reasonable Range:	None
Scale:	CAS (kts) = 4.0 kts/deg * Synchro Angle + 100 kts (4.0 kts/deg = 720kts/180°)
Input Signal Connection:	(X) = J1A-36, (Y) = J1A-37, (Z) = J1A-38
Input Reference Connection:	(H) = J1B-39, (C) = J1B-40
External Validity Flag Connection:	J2-G05
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.3.3.4 Air Temperature

6.3.3.4.1 Static Air Temperature (DC RATIO), ARINC 565

Data Item	Value	
Signal Name:	Static Air Temperature	
AAC Algorithm:	DC Ratio (5 V signal, 20 V reference)	
Signal Dynamic Range:	-100° C to +51° C (0 to 5.75 VDC max)	
Signal Reasonable Range:	-99° C to +50° C (ARINC 565 Para. 5.7.5)	
Reference Dynamic Range:	17 - 23 VDC	
Reference Reasonable Range:	18 - 22 VDC (ARINC 565 Para. 5.7.5)	
Scale:	**V_{RATIO}**	**SAT (in °C) (see Note)**
	< 0.1803	$2327.2092*V_{RATIO} - 470.7101$
	>= 0.1803 and < 0.2017	$2613.6096*V_{RATIO} - 522.3934$
	>= 0.2017	$2841.9877*V_{RATIO} - 568.0599$
Input Signal Connection:	(+) = J2-J04, (-) = J2-J05	
Input Reference Connection:	(H) = J2-J07, (C) = J2-J06 (Note: Reference is inverted, wired to retain MK VII wiring compatibility)	
External Validity Flag Connection:	N/A	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	000030FF	
External Validity Type:	None	

Note: ARINC 565 defines Static Air Temperature as $V_{RATIO} = 0.012087*(SAT + 273.15)^{1/2}$ where SAT is in °C. The three segment curve provides an approximation that is within 0.5 °C of the equation. Air Data Computer error is ±1°C. EGPWS AAC hardware worse case accuracy is about ±3°C at –40°C. Maximum expected error is about ±4.5°C. Transfer function was $2857.1226*V_{RATIO} - 571.2867$ prior to –210.

6.3.3.4.2 Static Air Temperature (DC)

Data Item	Value
Signal Name:	Static Air Temperature (DC)
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	-170° + 70° C (±6 Vdc)
Signal Reasonable Range:	-150° + 50° C (±5 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	$SAT (in °C) = 20°C/Vdc * Volts_{in} - 50°C$
Input Signal Connection:	(+) = J2-J04, (-) = J2-J05
Input Reference Connection:	None
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	None

6.3.3.4.3 Static Air Temperature (Internal Constant)

Data Item	Value
Signal Name:	Static Air Temperature (Internal Constant)
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	Constant, no external connection
Signal Reasonable Range:	Constant, no external connection
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	SAT (in °C) = 25°C Constant
Input Signal Connection:	X25A, X25B (No external connection)
Input Reference Connection:	None
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00000000
External Validity Type:	None

6.3.3.4.4 Static Air Temperature (DC RATIO), ARINC 565 with Validity

Data Item	Value	
Signal Name:	Static Air Temperature	
AAC Algorithm:	DC Ratio (5 V signal, 20 V reference)	
Signal Dynamic Range:	-100° C to +51° C (0 to 5.75 VDC max)	
Signal Reasonable Range:	-99° C to +50° C (ARINC 565 Para. 5.7.5)	
Reference Dynamic Range:	17 - 23 VDC	
Reference Reasonable Range:	18 - 22 VDC (ARINC 565 Para. 5.7.5)	
Scale:	**V_{RATIO}**	**SAT (in °C) (see 6.3.3.4.1)**
(See derivation in 6.3.3.4.1)	< 0.1803	$2327.2092*V_{RATIO} - 470.7101$
	>= 0.1803 and < 0.2017	$2613.6096*V_{RATIO} - 522.3934$
	>= 0.2017	$2841.9877*V_{RATIO} - 568.0599$
Input Signal Connection:	(+) = J2-J04, (-) = J2-J05	
Input Reference Connection:	(H) = J2-J07, (C) = J2-J06 (Note: Reference is inverted, wired to retain MK VII wiring compatibility)	
External Validity Flag Connection:	J2-B10	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	000030FF	
External Validity Type:	Discrete Validity, 28 VDC	

6.3.3.4.5 Total Air Temperature (DC RATIO), 500 Ohm, Rosemount 102ELBH

Data Item		Value
Signal Name:		Total Air Temperature Note: Faults will be reported using the term "True Air Temperature" since "Total" is not in the EGPWS voice Database.
AAC Algorithm:		DC Ratio
Signal Dynamic Range:		-120° C to +350° C (262 to 1175 ohms) Dynamic range scaling should allow for 0 to 2 VDC
Signal Reasonable Range:		-100° C to +200° C (302 to 886 ohms) Reasonable range scaling should allow for 0.5 to 1.6 VDC
Reference Dynamic Range:		3 to 5 VDC
Reference Reasonable Range:		3.4 to 4.5 VDC
Scale:	**V_{RATIO}** V_{RATIO} = Vtat/Vres	**TAT (in °C)**
	< 0.28364	°C = 975.07995*V_{RATIO} - 252.64594 (equivalent to $R_{TAT} \approx$ 500.0685 + 1.9793 ohm per °C)
	>= 0.28364	°C = 1000.81072*V_{RATIO} - 259.45895 (equivalent to $R_{TAT} \approx$ 500.3501 + 1.9284 ohm per °C)
Input Signal Connection (Vtat):		(+) = J2-J04, (-) = J2-J05
Input Reference Connection (Vres):		(H) = J2-J07, (C) = J2-J06 (Note: Reference is inverted, wired to retain MK VII wiring compatibility)
External Validity Flag Connection:		None
AAC FIFO LSB:		Table 6-1
AAC Signal Scheduling:		Table 6-1
AAC Status Mask:		000030FF
External Validity Type:		None

Note: The two segment curve scaling defined above (breakpoint at ≈ 24 °C) is based on using the EGPWCs internal 1.93 KOhm source resistor in series with the probe and provides an approximation to the basic Callendar-VanDusen equation (shown below) that is within 0.5 °C of the probe characteristics across the range of interest.

The Callendar-VanDusen Equation is:

$$\frac{Rt}{Ro} = 1 + \alpha\left[T - \delta\left(\frac{T}{100} - 1\right)\left(\frac{T}{100}\right) - \beta\left(\frac{T}{100} - 1\right)\left(\frac{T^3}{100}\right)\right]$$

where: Rt = Probe resistance at temperature, T
Ro = Resistance at 0° C (500 ohm)
α = 0.003832
δ = 1.81
β = 0.1 for temperatures below 0° C, otherwise = 0.0

6.3.4 Attitude/Acceleration

Document Revision History, Appendix A, Section 6.3.4

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
30-MAR-99 – A Loos	All	SCR 3722. New file split off from I76_APXA.DOC. Revision history for -208-208 and earlier are at the beginning of Section 6.	-	-
15-MAR-99 R.W. Halbert	6.3.4.2.5 6.3.4.2.6	SCR 3964 Added Normal Acceleration for L1011 SCR 3964 Added Longitudinal Acceleration for L1011	-210	-210
26-AUG-99 R.W. Halbert	6.3.4.2.5	Changed N/A to None	-210	-210
30-AUG-99 R. Halbert	6.3.4.2.6	SCR 3964 Changed External Valid to None	-210	-210
26-MAY-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-

6.3.4.1 Attitude

6.3.4.1.1 Pitch Attitude (DC)

Data Item	Value
Signal Name:	Pitch Attitude (DC)
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	± 54.54° (±6 Vdc)
Signal Reasonable Range:	± 45.45 ° (±5 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Pitch Angle (in °) = 9.090909°/Vdc * $Volts_{in}$ (110 mV/deg, 0 Vdc = 0°)
Input Signal Connection:	(+) = J2-K01, (-) = J2-K03
Input Reference Connection:	None
External Validity Flag Connection:	J2-K11 (Common Validity with Roll Attitude, DC)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300F
External Validity Type:	Discrete Validity, 28 VDC

6.3.4.1.2 Roll Attitude (DC)

Data Item	Value
Signal Name:	Roll Attitude, DC
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	± 75° (±6 Vdc)
Signal Reasonable Range:	± 62.5° (±5 Vdc)
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Roll Angle (in °) = 12.5°/Vdc * $Volts_{in}$ (80 mV/deg, 0 Vdc = 0°)
Input Signal Connection:	(+) = J2-K13, (-) = J2-K15
Input Reference Connection:	None
External Validity Flag Connection:	J2-K11 (Common Validity with Pitch Attitude, DC)
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000 300F
External Validity Type:	Discrete Validity, 28 VDC

6.3.4.1.3 Pitch Attitude, 3 Wire Synchro (11.8 VAC)

Data Item	Value	
Signal Name:	Pitch Attitude	
AAC Algorithm:	3 Synchro (11.8 VAC)	
Signal Dynamic Range:	± 90° Synchro Angle (15.5 VAC max)	
Signal Reasonable Range:	± 80° Synchro Angle	
Reference Dynamic Range:	17-34 VAC (not supplied)	
Reference Reasonable Range:	None	
Scale:	**#1**	**#2**
	1° Pitch = 1° Synchro Angle 0° Pitch = 0° Synchro Angle	1° Pitch = -1° Synchro Angle 0° Pitch = 0° Synchro Angle
Input Signal Connection:	(X) = J2-K01 (Y) = J2-K02 (Z) = J2-K03	(X) = J2-D14 (Y) = J2-D13 (Z) = J2-D15
Input Reference Connection:	None	None
External Validity Flag Connection:	J2-K11 (Common Validity with Roll Attitude #1, 3 Wire Synchro)	J2-D04 (Common Validity with Roll Attitude #2, 3 Wire Synchro)
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	00003F0F	
External Validity Type:	Discrete Validity, 28 VDC	

6.3.4.1.4 Roll Attitude, 3 Wire Synchro (11.8 VAC)

Data Item	Value	
Signal Name:	Roll Attitude	
AAC Algorithm:	3 Synchro (11.8 VAC)	
Signal Dynamic Range:	± 90° Synchro Angle (15.5 VAC max)	
Signal Reasonable Range:	± 80° Synchro Angle	
Reference Dynamic Range:	17-34 VAC (not supplied)	
Reference Reasonable Range:	None	
Scale:	**#1**	**#2**
	1° Roll = 1° Synchro Angle 0° Roll = 0° Synchro Angle	1° Roll = -1° Synchro Angle 0° Roll = 0° Synchro Angle
Input Signal Connection:	(X) = J2-K13 (Y) = J2-K14 (Z) = J2-K15	(X) = J2-E02 (Y) = J2-E01 (Z) = J2-E03
Input Reference Connection:	None	None
External Validity Flag Connection:	J2-K11 (Common Validity with Pitch Attitude #1, 3 Wire Synchro)	J2-D04 (Common Validity with Pitch Attitude #2, 3 Wire Synchro)
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000 3F0F	
External Validity Type:	Discrete Validity, 28 VDC	

6.3.4.2 Acceleration

6.3.4.2.1 Longitudinal Acceleration, DC, ASA BIAX

Data Item	Value
Signal Name:	DC Longitudinal Acceleration (ASA BIAX)
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	± 3g (±15 VDC)
Signal Reasonable Range:	None
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Lng Accel (g's) = 0.2g/Vdc * $Volts_{in}$,
Input Signal Connection:	(+) = J2-H14, (-) = J2-H15
Input Reference Connection:	None
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300C
External Validity Type:	None

6.3.4.2.2 Normal Acceleration, DC, ASA BIAX

Data Item	Value
Signal Name:	DC Normal Acceleration (ASA BIAX)
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	±4g
Signal Reasonable Range:	None
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Norm Accel (g's) = 0.3333333g/Vdc * $Volts_{in}$, (Nominal output is 1g, 3 Vdc)
Input Signal Connection:	(+) = J2-H12, (-) = J2-H13
Input Reference Connection:	None
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300C
External Validity Type:	None

6.3.4.2.3 Longitudinal Acceleration, DC

Data Item	Value
Signal Name:	DC Longitudinal Acceleration
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	± 4g
Signal Reasonable Range:	None
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Lng Accel (g's) = 0.25g/Vdc * $Volts_{in}$,
Input Signal Connection:	(+) = J2-H14, (-) = J2-H15
Input Reference Connection:	None
External Validity Flag Connection:	J2-D11
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300C
External Validity Type:	Discrete Validity, 28 VDC

6.3.4.2.4 Normal Acceleration, DC

Data Item	Value
Signal Name:	DC Normal Acceleration
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	±4g
Signal Reasonable Range:	None
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Norm Accel (g's) = 0.25g/Vdc * $Volts_{in}$, + 1g
Input Signal Connection:	(+) = J2-H12, (-) = J2-H13
Input Reference Connection:	None
External Validity Flag Connection:	J2-G03
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300C
External Validity Type:	Discrete Validity, 28 VDC

6.3.4.2.5 Longitudinal Acceleration, DC (L1011)

Data Item	Value
Signal Name:	DC Longitudinal Acceleration
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	± 4g
Signal Reasonable Range:	None
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Lng Accel (g's) = 0.4g/Vdc * $Volts_{in}$,
Input Signal Connection:	(+) = J2-H14, (-) = J2-H15
Input Reference Connection:	None
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300C
External Validity Type:	None

6.3.4.2.6 Normal Acceleration, DC (L1011)

Data Item	Value
Signal Name:	DC Normal Acceleration
AAC Algorithm:	DC Absolute
Signal Dynamic Range:	±4g
Signal Reasonable Range:	None
Reference Dynamic Range:	None
Reference Reasonable Range:	None
Scale:	Norm Accel (g's) = 0.4g/Vdc * $Volts_{in}$ + 1g, (0Vdc=1g)
Input Signal Connection:	(+) = J2-H12, (-) = J2-H13
Input Reference Connection:	None
External Validity Flag Connection:	None
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	0000300C
External Validity Type:	None

6.3.5 Navigation, Radio

Document Revision History, Appendix A, Section 6.3.5

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
30-MAR-99 – A Loos	All	SCR 3722. New file split off from I76_APXA.DOC. Revision history for -208-208 and earlier are at the beginning of Section 6.	-	-
10-JUN-99 – A Loos	6.3.5.3, 6.3.5.4	SCR 3955: Add new Glideslope and Localizer signals with low level validity.	future	future
14-JUN-99 – A Loos	6.3.5.3, 6.3.5.4	SCR 3955: Added “Discrete” to signal names on Low Level Validity.	future	future
24-Sep-99 - A Loos	ALL	SCR 4334: Correct format errors	-	-
6-DEC-1999 – D. Gibson	6.3.5.3, 6.3.5.4	SCR 3955: Removed “future” from traceability of 6.3.5.3 and 6.3.5.4	212	212
6-DEC-1999 – D. Gibson	6.3.5.3, 6.3.5.4	3955: Removed Audit trail reference to SCR 3956	212	212
26-MAY-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-

6.3.5.1 ARINC 547/578-4 Low Level Glideslope Deviation

Data Item	Value	
Signal Name:	DC Glideslope (ARINC 547/578-4)	
AAC Algorithm:	Special DC	
Signal Dynamic Range:	±17 Dots	
Signal Reasonable Range:	±12 Dots	
Reference Dynamic Range:	None	
Reference Reasonable Range:	None	
Scale:	GS Deviation (DOTs) = -13.333333 DOTs/Vdc * $Volts_{in}$ **-** **(**Positive = Fly Down) (75 mV per DOT, 0 Volts = 0 DOT) **NOTE:** To be consistent with the ARINC 429 definition G/S scaling inverts sign of input signal such that positive numbers are fly down.	
Input Signal Connection:	**#1**	**#2**
	(+) = J1B-31 (Up) (–) = J1B-32 (Down)	(+) = J2-F10 (Up) (-) = J2-F11 (Down)
Input Reference Connection:	None	
External Validity Flag :	**#1**	**#2**
Connection	J1B-26	J2-G02
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000C00C	
External Validity Type:	Discrete Validity, 28 VDC	

6.3.5.2 ARINC 547/578-4 Localizer Deviation, Low Level DC

Data Item	Value	
Signal Name:	DC Localizer Deviation (ARINC 578-4)	
AAC Algorithm:	Special DC	
Signal Dynamic Range:	± 17 Dots	
Signal Reasonable Range:	± 12 Dots	
Reference Dynamic Range:	None	
Reference Reasonable Range:	None	
Scale:	LOC Deviation (DOTs) = 13.333333 DOTs/Vdc * $Volts_{in}$ (positive = pilot fly right) (75 mV per DOT, 0 Volts = 0 DOT)	
Input Signal Connection:	**#1**	**#2**
	(+) = J2-H04 (-) = J2-H05	(+) = J2-J11 (-) = J2-J12
Input Reference Connection:	None	
External Validity Flag :	**#1**	**#2**
Connection	J2-E15	J2-K12
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000C00C	
External Validity Type:	Discrete Validity, 28 VDC	

6.3.5.3 ARINC 547/578-4 Low Level Glideslope Deviation, Low Level Validity

Data Item	Value	
Signal Name:	DC Glideslope (ARINC 547/578-4)	
AAC Algorithm:	Special DC	
Signal Dynamic Range:	±17 Dots	
Signal Reasonable Range:	±12 Dots	
Reference Dynamic Range:	None	
Reference Reasonable Range:	None	
Scale:	GS Deviation (DOTs) = -13.333333 DOTs/Vdc * $Volts_{in}$ **-** **(**Positive = Fly Down) (75 mV per DOT, 0 Volts = 0 DOT) **NOTE:** To be consistent with the ARINC 429 definition G/S scaling inverts sign of input signal such that positive numbers are fly down.	
Input Signal Connection:	(+) = J1B-31 (Up), (–) = J1B-32 (Down)	
Input Reference Connection:	None	
External Validity Flag Connection:	See Glideslope Low Level Validity below	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000C00C	
External Validity Type:	Low Level	
Data Item	**Value**	
Signal Name:	Glideslope Low Level Validity Discrete[1]	
AAC Algorithm:	Special DC	
Signal Dynamic Range:	0.0 to 0.5 Vdc	
Signal Reasonable Range:	0.0 to 0.5 Vdc	
Reference Dynamic Range:	None	
Reference Reasonable Range:	None	
Scale:	**$Volts_{in}$**	**Glideslope Low Level Validity**
	≤ 200 mV	0
	> 200 mV	1
Input Signal Connection:	(+) = J2-F10, (-) = J2-F11	
Input Reference Connection:	None	
AAC FIFO LSB:	1	
AAC Signal Scheduling:	Table 6-1 (Glideslope)	
AAC Status Mask:	0000C00C	
External Validity Type:	None	

[1] 250µA = Valid, 0 to 125µA = Invalid, 1 K Ohm load in indicator.

6.3.5.4 ARINC 547/578-4 Localizer Deviation, Low Level DC, Low Level Validity

Data Item	Value	
Signal Name:	DC Localizer Deviation (ARINC 547/578-4)	
AAC Algorithm:	Special DC	
Signal Dynamic Range:	± 17 Dots	
Signal Reasonable Range:	± 12 Dots	
Reference Dynamic Range:	None	
Reference Reasonable Range:	None	
Scale:	LOC Deviation (DOTs) = 13.333333 DOTs/Vdc * $Volts_{in}$ (positive = pilot fly right) (75 mV per DOT, 0 Volts = 0 DOT)	
Input Signal Connection:	(+) = J2-H04 (-) = J2-H05	
Input Reference Connection:	None	
External Validity Flag Connection:	See Localizer Low Level Validity below	
AAC FIFO LSB:	Table 6-1	
AAC Signal Scheduling:	Table 6-1	
AAC Status Mask:	0000C00C	
External Validity Type:	Low Level	
Data Item	**Value**	
Signal Name:	Localizer Low Level Validity Discrete[2]	
AAC Algorithm:	Special DC	
Signal Dynamic Range:	0.0 to 0.5 Vdc	
Signal Reasonable Range:	0.0 to 0.5 Vdc	
Reference Dynamic Range:	None	
Reference Reasonable Range:	None	
Scale:	**$Volts_{in}$**	**Localizer Low Level Validity**
	≤ 200 mV	0
	> 200 mV	1
Input Signal Connection:	(+) = J2-J11, (-) = J2-J12	
Input Reference Connection:	None	
AAC FIFO LSB:	1	
AAC Signal Scheduling:	Table 6-1 (Localizer)	
AAC Status Mask:	0000C00C	
External Validity Type:	None	

[2] 250µA = Valid, 0 to 125µA = Invalid, 1 K Ohm load in indicator.

6.3.6 Position

Document Revision History, Appendix A, Section 6.3.6

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
30-MAR-99 – A Loos	All	SCR 3722. New file split off from I76_APXA.DOC. Revision history for -208-208 and earlier are at the beginning of Section 6.	-	-
26-MAY-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-

6.3.6.1 Magnetic Heading, 5 Wire Synchro

Data Item	Value
Signal Name:	Magnetic Heading
AAC Algorithm:	5 Wire Synchro (11.8V)
Signal Dynamic Range:	± 180° Synchro Angle (15.5 VAC max)
Signal Reasonable Range:	± 180°
Reference Dynamic Range:	17 - 34 VAC
Reference Reasonable Range:	None
Scale:	Mag Hdg (deg) = 1 deg/deg
Input Signal Connection:	(X) = J2-J08, (Y) = J2-J09, (Z) = J2-J10
Input Reference Connection:	(H) = J2-G10, (C) = J2-G11
External Validity Flag Connection:	J2-D04
AAC FIFO LSB:	Table 6-1
AAC Signal Scheduling:	Table 6-1
AAC Status Mask:	00003F0F
External Validity Type:	Discrete Validity, 28 VDC

6.4 Discrete Inputs

Document Revision History, Appendix A, Section 6.4

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
30-MAR-99 – A Loos	All	SCR 3722. New file split off from I76_APXA.DOC. Revision history for -208-208 and earlier are at the beginning of Section 6.	-	-
06-APR-99 – MJC	6.4.18	SCR 3739. Updated description of how Audio Inhibit discrete is configured to suppress visuals.	-	-
11-May-99 – D. Sawich	6.4.41	SCR 3878. Added GPWS Inhibit Discrete Input.	-	-210
15-Feb-00 – A Loos	-	Correct number of discrete inputs.	-	-
26-MAY-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
03-OCT-00 – Gary Boyd	6.4.42	SCR 5494: Add Terrain Relay Monitor Discrete		-213
23-JAN-01 – Gary Boyd	6.4.42	SCR 5494: Removed “future” and added more “Notes”.		-213
25-JAN-01 – Gary Boyd	6.4.35, 6.4.36	SCR 5746: Fixed minor format problems	-	-
13-JUN-03 – R. Gharpure	6.4.43, 6.4.44	SCR 7579: Added RAAS Enable and Inhibit Discretes.	-218	-218
23-JUL-03 – R. Gharpure	6.4.43	SCR 7579: Changed “RAAS Enable Discrete” to “RAAS Disable Discrete”.	-218	-218

This section contains a brief description of each input discrete is used in the EGPWS. The functional use of each discrete input is defined in the system function section where the discrete is used. For example the Glideslope Cancel discrete function is defined where it is used (in the section describing Mode 5 requirements). This section discusses the raw discrete input requirements.

There are 46 possible discrete inputs each have one of the following input characteristics

1) 23 Open/Ground two state discretes
2) 23 Open/28VDC two state discretes

Each discrete input is mapped by the aircraft configuration to a specific function. This mapping is defined for each aircraft type in Section 5.2.

The EGPWS supports the following inputs in discrete form. *The Level 6 audio information specifies the voice issued when a state change occurs on the input discrete during level 6 self test.* Refer to the Product Specification for self test description.

6.4.1 ARINC 552/ALT 55 Radio Altitude Validity Flags

Three Radio Altitude Validity Flag may be used by EGPWS, one for each of the three possible ARINC 552 or ALT 55 Radio Altimeters inputs.

Type: Validity from ARINC 552 or ALT 55 Radio Altimeter.

Signal Status: Valid or Invalid

	Level 6 Audio readout
Radio Altitude Validity Discrete #1	Valid => “Radio Altimeter 1 Valid” Invalid => “Radio Altimeter 1 Invalid”
Radio Altitude Validity Discrete #2	Valid => “Radio Altimeter 2 Valid” Invalid => “Radio Altimeter 2 Invalid”
Radio Altitude Validity Discrete #3	Valid => “Radio Altimeter 3 Valid” Invalid => “Radio Altimeter 3 Invalid”

6.4.2 GND Landing Gear Discrete

Type: Supplied by landing gear or landing gear selector handle position-sensitive switch. This input can be paralleled with, or used exclusively by a Gear Override Switch if an alternate source of Gear Position is used.

Signal Status: Landing Gear Down or Landing Gear Up

Fault monitoring: Indication of landing gear selected for more than 60 seconds at airspeeds above 290 knots will result in a gear switch fault which will cause a GPW INOP indication.

Note: This can be caused by either a gear switch fault or by the Gear Override switch being left in the on position.

	Level 6 Audio readout
Landing Gear Discrete or Gear Override	Selected => "Landing Gear Down" Not Selected => "Landing Gear Up"

6.4.3 +28V Landing Gear Discrete

Type: Supplied by landing gear or landing gear selector handle position-sensitive switch. This input can be paralleled with, or used exclusively by a Gear Override Switch if an alternate source of Gear Position is used.

Signal Status: Landing Gear Down or Landing Gear Up

Fault monitoring: Indication of landing gear selected for more than 60 seconds at airspeeds above 290 knots will result in a gear switch fault which will cause a GPW INOP indication.

Note: This can be caused by either a gear switch fault or by the Gear Override switch being left in the on position.

	Level 6 Audio readout
+28 V Landing Gear Discrete or Gear Override	Selected => "28V Landing Gear Down" Not Selected => "28V Landing Gear Up"

6.4.4 GND Landing Flap Discrete or Flap Override

Type: Supplied by Flap or Flap selector handle switch. This input can be paralleled with, or used exclusively by a Flap Override Switch if an alternate source of Flap Position is used.

Signal Status: Landing Flaps or Not Landing Flaps

Fault monitoring: Indication of landing flaps selected for more than 60 seconds at airspeeds above 250 knots will result in a flap switch fault which will cause a GPW INOP indication.

Note: This can be caused by either a flap switch fault or by the Flap Override switch being left in the on position.

	Level 6 Audio readout
GND Landing Flaps Discrete or Flap Override	Landing Flaps Selected => "Landing Flaps" Landing Flaps Not Selected => "Not Landing Flaps"

6.4.5 +28V Landing Flap Discrete or Flap Override

Type: Supplied by Flap or Flap selector handle switch. This input can be paralleled with, or used exclusively by a Flap Override Switch if an alternate source of Flap Position is used.

Signal Status: Landing Flaps or Not Landing Flaps

Fault monitoring: Indication of landing flaps selected for more than 60 seconds at airspeeds above 250 knots will result in a flap switch fault which will cause a GPW INOP indication.

Note: This can be caused by either a flap switch fault or by the Flap Override switch being left in the on position.

	Level 6 Audio readout
+28 V Landing Flaps Discrete or Flap Override	Landing Flaps Selected => "Landing Flaps" Landing Flaps Not Selected => "Not Landing Flaps"

6.4.6 Flap Position Discretes

Up to four flap position discretes are typically supplied from the flap selector handle switch.

Type: Supplied by Flap selector handle switch.

Signal Status: Flap position selected.

Fault monitoring: Depending on the installation, activation of more than one, or none of these discretes for more than 30 seconds will result in a Flap Unreasonable indication.

	Level 6 Audio readout
Flap Position Discrete #1	Selected => "Flap 1 True" Not Selected => "Flap 1 False"
Flap Position Discrete #2	Selected => "Flap 2 True" Not Selected => "Flap 2 False"
Flap Position Discrete #3	Selected => "Flap 3 True" Not Selected => "Flap 3 False"
Flap Position Discrete #4	Selected => "Flap 4 True" Not Selected => "Flap 4 False"

6.4.7 Self Test Discrete

Type: Supplied by a momentarily actuated cockpit self-test switch

Signal Status: Self Test or Normal

Activation of this input continuously for more than 60 seconds will result in the 'Self Test Invalid" fault which will cause a GPW INOP indication.

Note: This input is used to start and stop the Level 6 self test, there is no audio output for this discrete in Level 6.

6.4.8 Steep Approach Discretes

To activate Steep Approach, both of the Steep Approach discretes must be selected. Discrete #1 should be enabled if Steep Approach is to be used, and can be permanently enabled. Discrete #2 should be selected in flight when starting a steep approach. It should not be permanently selected. On ground self test is inhibited if Steep Approach is active.

6.4.8.1 Steep Approach Discrete #1

Type: Steep Approach Enabled

Signal Status: Steep Approach Enabled or Disabled

	Level 6 Audio readout
Steep Approach Discrete #1	Enabled => "Steep Approach Enabled" Disabled => "Steep Approach Disabled"

6.4.8.2 Steep Approach Discrete #2

Type: Steep Approach Selected

Signal Status: Steep Approach Selected or Not Selected

	Level 6 Audio readout
Steep Approach Discrete #2	Selected => "Steep Approach Selected" Not Selected => "Steep Approach Not Selected"

6.4.9 GND ILS Tuned Discrete

Type: Supplied by ILS/VOR Mode Selector.

Signal Status: ILS tuned or VOR tuned

	Level 6 Audio readout
GND ILS Tuned Discrete #1	ILS Tuned => "ILS 1 Tuned" ILS Not Tuned => "ILS 1 Not Tuned"
GND ILS Tuned Discrete #2	ILS Tuned => "ILS 2 Tuned" ILS Not Tuned => "ILS 2 Not Tuned"

6.4.10 +28V ILS Tuned Discrete

Type: Supplied by ILS/VOR Mode Selector.

Signal Status: ILS tuned or VOR tuned

	Level 6 Audio readout
+28 V ILS Tuned Discrete #1	ILS Tuned => "28V ILS 1 Tuned" ILS Not Tuned => "28V ILS 1 Not Tuned"
+28 V ILS Tuned Discrete #2	ILS Tuned => "28V ILS 2 Tuned" ILS Not Tuned => "28V ILS 2 Not Tuned"

6.4.11 Glideslope Validity Discretes

Two Glideslope Validity Discretes may be used by EGPWS, one for each possible ARINC 547 Glideslope Receiver input.

Type: Validity from ARINC 547 Glideslope receiver.

Signal Status: Valid or Invalid

	Level 6 Audio readout
Glideslope Validity Discrete #1	Valid => "Glideslope 1 Valid" Invalid => "Glideslope 1 Invalid"
Glideslope Validity Discrete #2	Valid => "Glideslope 2 Valid" Invalid => "Glideslope 2 Invalid"

6.4.12 GND Glideslope Inhibit Discrete

Type: Switch for inhibit of Glideslope mode

Signal Status: Glideslope Inhibit or Not Inhibit

Mode 5 will be disabled and "Glideslope" will not be enunciated during cockpit Self Test and the long vocabulary test if inhibited.

	Level 6 Audio readout
Glideslope Inhibit Discrete	Inhibit => "Glideslope Inhibit True" Not Inhibit => "Glideslope Inhibit False"

6.4.13 +28 V Glideslope Inhibit Discrete

Type: Switch for inhibit of Glideslope mode

Signal Status: Glideslope Inhibit or Not Inhibit

Mode 5 will be disabled and "Glideslope" will not be enunciated during cockpit Self Test and the long vocabulary test if inhibited.

	Level 6 Audio readout
+28V Glideslope Inhibit Discrete	Inhibit => "28V Glideslope Inhibit True" Not Inhibit => "28V Glideslope Inhibit False"

6.4.14 GND Glideslope Cancel Discrete

Type: Supplied by a momentarily actuated cockpit Glideslope mode manual inhibit switch.

Signal Status: Glideslope is canceled if glideslope function is active

Fault monitoring: Activation of this input for more than 15 seconds will result in the 'Glideslope Cancel Invalid' fault which will cause a GPW INOP indication. Typically the Glideslope cancel can only be selected below 2000 feet AGL. However some configurations only allow it below 1000 feet AGL. The configuration data tables in Section 5.2.5 will indicate if the 1000 foot level is used.

	Level 6 Audio readout
Glideslope Cancel Discrete	Cancel => "Glideslope Canceled" Normal => "Glideslope Enabled"

6.4.15 Decision Height Discrete

Type: Decision Height Bug switch

Signal Status: Less than Decision Height or Greater than Decision Height

	Level 6 Audio readout
DH Discrete	Less Than DH => "Below DH" Greater Than DH => "Above DH"

6.4.16 Mode 6 Volume Control Discrete

Type: Mode 6 low volume select switch

Signal Status: Low Volume Select or Normal Volume

"Low Volume" in this case refers to the -6db volume level used during Self Test. "Normal Volume" refers to the level of the selected call-out menu.

	Level 6 Audio readout
Mode 6 Low Volume Discrete	Low Volume => "Mode 6 Low Volume" Normal => "Mode 6 Normal Volume"

6.4.17 Callouts Enable Discrete

Type: Mode 6 Altitude callouts enable switch

Signal Status: Callouts Enable or Callouts Disable with optional Minimums only

	Level 6 Audio readout
Altitude Callouts Enable Discrete	Voice Enabled => "Callouts Enabled" Voice Disabled => "Callouts Disabled"

6.4.18 GND Audio Suppress(Inhibit)/All Modes Inhibit Discrete

The function of this discrete is controlled by the 'EGPWS Suppress' configuration data item activated via the selected Category 5 ID (refer to section 5.2.5). This discrete always inhibits all audio except for the Windshear warning. If configured to suppress visual the input will also suppress all visuals except for Windshear warning. If configured to also suppress visuals, activation of this input for more than 60 seconds will always result in the 'All Modes Inhibit" fault which will cause GPW and Terrain INOP indications. As a function of selected aircraft type this discrete can also cause the All Modes Inhibit fault after 60 seconds even if it is only configured to suppress audio (Refer to the 'Audio Inhibit Monitoring' configuration item listed in each category 1 ID).

Type: Analog discrete input from a flight deck mounted switch

Signal Status: Audio Suppress enabled or disabled/All Modes Inhibit enable or disable

	Level 6 Audio readout
GND Audio Inhibit Discrete	GPWS Inhibit => "Audio Inhibit" Not Inhibit => "Audio Not Inhibit"

6.4.19 +28 V Audio Suppress(Inhibit)/All Modes Inhibit Discrete

The function of this discrete is controlled by program pin. This discrete always inhibits all audio except for the Windshear warning. If configured to suppress visual the input will also suppress all visuals except for Windshear warning. If configured to also suppress visuals, activation of this input for more than 60 seconds will always result in the 'All Modes Inhibit" fault which will cause GPW and Terrain INOP indications. As a function of selected aircraft type this discrete can also cause the All Modes Inhibit fault after 60 seconds even if it is only configured to suppress audio (Refer to the 'Audio Inhibit Monitoring' configuration item listed in each aircraft's ICD).

Type: Analog discrete input from a flight deck mounted switch

Signal Status: Audio Suppress enabled or disabled/All Modes Inhibit enable or disable

	Level 6 Audio readout
+28V Audio Inhibit Discrete	GPWS Inhibit => "28V Audio Inhibit" Not Inhibit => "28V Audio Not Inhibit"

6.4.20 AOA Validity Discretes

Two AOA Validity Discretes may be used by EGPWS, one for each source of AOA. Ether an AOA Indication System or a Stall Warning Computer, depending on the type being used by the aircraft.

Type: Fail Flag from AOA Indication System or a Stall Warning Computer

Signal Status: Fail or Not Fail

	Level 6 Audio readout
AOA Validity Discrete #1	Valid => "AOA 1 Valid" Invalid => "AOA 1 Invalid"
AOA Validity Discrete #2	Valid => "AOA 2 Valid" Invalid => "AOA 2 Invalid"

6.4.21 Display Select Discretes

Type: Supplied by momentarily actuated cockpit manual switch. Two types are supported:

Type 1: momentary make/break switch
Type 2: toggle type switch

Signal Status: Terrain Awareness Display (TAD) activated if not active or TAD canceled if currently active.

	Level 6 Audio readout
Display Select Discrete #1	True => "Display Discrete 1 True" False => "Display Discrete 1 False"
Display Select Discrete #2	True => "Display Discrete 2 True" False => "Display Discrete 2 False"

6.4.22 Terrain Awareness & TCF Inhibit

Type: Switch for inhibit of Terrain Awareness & TCF functions

Signal Status: Terrain Awareness & TCF Inhibit or Not Inhibit

"Terrain Inhibited" will be enunciated during cockpit Self Test if inhibited.

Fault monitoring: For some installations, activation of this input for more than 5 seconds will activate the Terrain Monitor (refer to the Terrain Display Configuration Data table for each aircraft type).

	Level 6 Audio readout
Terrain Awareness & TCF Inhibit	Disabled => "Terrain Off" Normal => "Terrain On"

6.4.23 Simulator Reposition

Type: Switch for activating Simulator Reposition

Signal Status: Reposition or Normal

If the Simulator Reposition program pin option is activated, then this discrete can be used to 'preset' the EGPWS to match simulator initial conditions.

	Level 6 Audio readout
Simulator Reposition Discrete	Reposition => "Simulator Reposition On" Normal => "Simulator Reposition Off"

6.4.24 Weather Radar On/Off

Type: WXR On/Off switch input

Signal Status: Radar turned on or off

	Level 6 Audio readout
WXR #1 On Discrete	On => "Weather On" Off => "Weather Off"
WXR #2 On Discrete	On => "Weather 2 On" Off => "Weather 2 Off"

6.4.25 Localizer Validity Discretes

Two Localizer Validity Discretes may be used by EGPWS, one for each possible ARINC 547 Localizer Receiver input.

Type: Validity from ARINC 547 Localizer receiver.

Signal Status: Valid or Invalid

	Level 6 Audio readout
Localizer Validity Discrete #1	Valid => "Localizer 1 Valid" Invalid => "Localizer 1 Invalid"
Localizer Validity Discrete #2	Valid => "Localizer 2 Valid" Invalid => "Localizer 2 Invalid"

6.4.26 Attitude Validity Discretes

Two Attitude Validity Discretes may be used by EGPWS, one for each possible Attitude sensor.

Type: Validity from Attitude sensor.

Signal Status: Valid or Invalid

	Level 6 Audio readout
Attitude Validity Discrete #1	Valid => "Attitude 1 Valid" Invalid => "Attitude 1 Invalid"
Attitude Validity Discrete #2	Valid => "Attitude 2 Valid" Invalid => "Attitude 2 Invalid"

6.4.27 Airspeed Validity Discretes

Airspeed Validity Discrete may be used by EGPWS, one for each possible Airspeed sensor.

Type: Validity from Airspeed sensor.

Signal Status: Valid or Invalid

	Level 6 Audio readout
Airspeed Validity Discrete #1	Valid => "Airspeed 1 Valid" Invalid => "Airspeed 1 Invalid"
Airspeed Validity Discrete #2	Valid => "Airspeed 2 Valid" Invalid => "Airspeed 2 Invalid"

6.4.28 Barometric Altitude Rate Validity Discretes

Two Barometric Altitude Rate Validity Discretes may be used by EGPWS, one for each possible barometric rate sensor.

Type: Validity from Barometric Altitude Rate sensor.

Signal Status: Valid or Invalid

	Level 6 Audio readout
Barometric Attitude RateValidity Discrete #1	Valid => "Attitude Rate1 Valid" Invalid => "Attitude Rate1 Invalid"
Barometric Attitude RateValidity Discrete #2	Valid => "Attitude Rate 2 Valid" Invalid => "Attitude Rate 2 Invalid"

6.4.29 Acceleration Self Test In Progress

Input to indicate that Accelerometers are in self test mode.

Type: Self test status from rate acceleration sensor.

Signal Status: Acceleration Self Test Active or Inactive

	Level 6 Audio readout
Acceleration Self Test In Progress	In Progress => Acceleration Self Test Active Not in Progress => Acceleration Self Test Inactive

6.4.30 Longitudinal Acceleration Validity Discrete

Longitudinal Acceleration Validity Discrete may be used by EGPWS for the Acceleration sensor.

Type: Validity from Acceleration sensor.

Signal Status: Valid or Invalid

	Level 6 Audio readout
Longitudinal Acceleration Validity Discrete	Valid => "Longitudinal Accel Valid" Invalid => "Longitudinal Accel Invalid"

6.4.31 Normal Acceleration Validity Discrete

Normal Acceleration Validity Discrete may be used by EGPWS for the Acceleration sensor.

Type: Validity from Acceleration sensor.

Signal Status: Valid or Invalid

	Level 6 Audio readout
Normal Acceleration Validity Discrete	Valid => "Normal Accel Valid" Invalid => "Normal Accel Invalid"

6.4.32 Magnetic Heading Validity Discrete

A Magnetic Heading Validity Discrete may be used by EGPWS for the Mag Heading sensor.

Type: Validity from Magnetic Heading sensor.

Signal Status: Valid or Invalid

	Level 6 Audio readout
Magnetic Heading Validity Discrete	Valid => "Magnetic Heading Valid" Invalid => "Magnetic Heading Invalid"

6.4.33 AOA Vane Heater Discrete

An AOA Vane Heater Discrete may be used by EGPWS for indication of vane heat for flight history recording.

Type: Heater Flag from AOA vane.

Signal Status: Vane Heater On or Vane Heater off

	Level 6 Audio readout
AOA Vane Heater Discrete	True => "AOA Vane Heater On" False => "AOA Vane Heater Off"

6.4.34 PLI Deselect Switch Discretes

PLI deselect switch discretes may be used by EGPWS for de-activating the PLI select relays to remove EGPWS PLI indication from the ADI.

Type: momentary make/break switch

Signal Status: EGPWS PLI deselected

	Level 6 Audio readout
PLI Deselect Switch #1	Pressed => "PLI Deselect Switch 1 True" Not Pressed => "PLI Deselect Switch 1 False"
PLI Deselect Switch #2	Pressed => "PLI Deselect Switch 2 True" Not Pressed => "PLI Deselect Switch 2 False"

6.4.35 Autopilot Disconnect Discretes

Autopilot Disconnect discretes may be used by EGPWS for indication that the Autopilot has been disconnected.

Type: Autopilot Disconnected

Signal Status: Autopilot Connected or Not Connected

	Level 6 Audio readout
Autopilot Disconnect #1	Connected => "Autopilot 1 Selected" Not Connected => "Autopilot 1 Not Selected"
Autopilot Disconnect #2	Connected => "Autopilot 2 Selected" Not Connected => "Autopilot 2 Not Selected"

6.4.36 Tactical Select Discrete

Tactical Select discrete may be used by EGPWS for an indication that the Tactical Select switch has been pressed.

Type: momentary make/break switch

Signal Status: Tactical Select Selected or Not Selected

	Level 6 Audio readout
Tactical Select Discrete	Selected => "Tactical Selected" Not Selected => "Tactical Not Selected"

6.4.37 Altitude Alert Discrete

Altitude Alert discrete may be used by EGPWS for an indication that the Altitude Alert is selected.

Type: Discrete for activating the Altitude Alert tone.

Signal Status: Altitude Alert Selected or Deselected

	Level 6 Audio readout
Altitude Alert Discrete	True => "Altitude Alert Selected" False => "Altitude Alert Deselected"

6.4.38 Corrected Barometric Altitude Validity Discrete

Corrected Barometric Altitude Validity Discrete may be used by EGPWS to determine when the Corrected Altitude input is invalid. (note: this is only used when configurable item [CorrBaroAlt] is set true)

Type: Validity from Corrected Barometric Altitude computer.

Signal Status: Valid or Invalid

	Level 6 Audio readout
Corrected Barometric Alt Valid	Valid => "Corrected Altitude Valid" Invalid => "Corrected Altitude Invalid"

6.4.39 Momentary Flap Override Discrete

Flap Override Discrete may be used by EGPWS to determine when Flap Override has been selected.

Type: Momentary make/break switch.

Signal Status: Selected or Not Selected

	Level 6 Audio readout
Momentary Flap Override Discrete	Selected => "Flap Override" Not Selected => "Not Flap Override"

6.4.40 Weight On Wheels Discrete

Weight On Wheels Discrete may be used by EGPWS to determine if the aircraft is on the ground.

Type: Weight On Wheels Status

Signal Status: On Ground or Not On Ground

	Level 6 Audio readout
Weight On Wheels Discrete	Selected => "On Ground" Not Selected => "Not On Ground"

6.4.41 GPWS Inhibit Discrete

This discrete inhibits all audio and visual except for Windshear, Terrain Awareness and TCF.

Type: Analog discrete input from a flight deck mounted switch

Signal Status: GPWS enabled or disabled

Fault monitoring: Activation of this input for more than 5 seconds will result in the 'GPWS Inhibit' fault which will cause a GPW INOP indication. The functionality of this input is not affected by the 'EGPWS Suppress' configuration data item activated via the selected Category 5 ID (refer to section 5.2.5)

	Level 6 Audio readout
GPWS Inhibit Discrete	GPWS Inhibit => "GPWS Inhibit" Not Inhibit => "GPWS Not Inhibit"

6.4.42 Terrain Relay Monitors

Type: Terrain Relay Position Feedback

Signal Status: Terrain Select Relay On/Off

	Level 6 Audio readout
Terrain Relay Monitor #1	Relay On => "Terrain Relay 1 On" Relay Off => "Terrain Relay 1 Off"
Terrain Relay Monitor #2	Relay On => "Terrain Relay 2 On" Relay Off => "Terrain Relay 2 Off"

NOTE: If the **Terrain On**, bit 21, in ARINC 429 input label 273, disagrees with the **Terrain Relay Monitor** (ON/OFF) state for greater then 5 seconds then a Terrain Relay Fault for the affected channel will be set. A Terrain Relay 1 or 2 Fault will be set in the EGPWS, ARINC 429 output, label 051, bits 20 and 21 respectively. Relay monitor failure will not cause Terrain or GPWS INOP condition. A relay fault will be annunciated during an EGPWS level 2 Selftest as "Terrain Relay 1 (or 2) Fault".

6.4.43 RAAS Disable Discrete

Type: Discrete for disabling RAAS functionality

Signal Status: RAAS Enabled or Disabled

	Level 6 Audio readout
RAAS Disable Discrete	True => "Runway Awareness Disabled" False => "Runway Awareness Enabled"

6.4.44 RAAS Inhibit Discrete

Type: Discrete for inhibiting RAAS functionality

Signal Status: RAAS Inhibit or Not Inhibit

	Level 6 Audio readout
RAAS Inhibit Discrete	True => "Runway Awareness Inhibit" False => "Runway Awareness Not Inhibit"

7. Appendix B: OUTPUT DATA DEFINITION

Document Revision History

Date - Modified By	Affected Sections	Description of the Updates	Effectivety App.	Effectivety CFI.
21-DEC-99 – MJC	7.1.2.9 & 7.1.2.10	SCR 4211: Added latitude and longitude output labels.	-212	-212
16-FEB-00 – Gary Boyd	7.1.1.5	SCR 4682: Modified Label 271, Bits 29, 28, 27, 26, 25, 20, and 19 to activate during the lamp test portion Selftest.	-212	-212
28-FEB-00 – Richard auf der Springe	Table 7.1-1	SCR 4517: In table 7.1-1 changed note 15 from: 'Label 206, Computed Airspeed, is not transmitted when the airspeed input is analog.' to: 'Only in the 965-1076-0xx-210-210 label 206, Computed Airspeed, is not transmitted when the Airspeed input signal is analog. From the –212 and up label 206 is transmitted regardless of input signal format.'	-212	-212
03-APR-00 – Gary Boyd	7.1.1.5	SCR 5005: Removed note for Bit 19 saying that it is set during Glideslope Alert Selftest.	-212	-212
26-MAY-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
16-JAN-01 – Gary Boyd	7.1.5.2	SCR 5494: Added "TERRAIN RELAY 1/2", "OBSTACLE AWARENESS CAUTION", and "OBSTACLE AWARENESS WARNING" bits.	-213	-213
01-FEB-00 - S. Wright	Table 7.5-1	SCR 5494: Added Barometric Altitude Rate to indication of TA – no valid alt rate. (doc only)	-213	-213
23-APR-01 – Gary Boyd	7.1.5.3	SCR 6053: Clarified color bit definition.	-	-
11-JUN-01 – MJC	7.1.21	SCR 5222: Added Mercury GPS output data.	-214	-214
01-AUG-01 – MJC	7.1.21	SCR 5222: Deleted reference to –07x part numbers and corrected GPS label 273 definitions of bits 12 and 14.	-214	-214
24-SEP-01 – G. Ostrom	Table 7.5-1	SCR 6363: Revised 7.5-1 to correct the System Status Message Nav Mode 1 and Nav Mode 2.	-214	-214
10-OCT-01 – G. Ostrom	7.1.1.4 7.1.1.6	SCR 4871: Updated 7.1.1.4 to add Pitch Alert to bit 23 and 7.1.1.6 to add Pitch Angle Alert to 23 and Pitch Angle INOP to bit 24. Updated table 7.4-1 to add Pitch Alert Enabled.	-214	-214
18-Oct-01 – A Loos	7.1.1.2	SCR 6438: Label 274, add Note 1 and clarify that certain bits are purely driven by the discrete associated with the listed connector pin.	-	-
06-DEC-01 – N Paterson	All	SCR 6053: General Cleanup		
18-FEB-02 –S.G.H.Bhatta	Table 7.4-1	SCR 3181: Moved Configuration Message (Simulator Reposition Selected) from Selected option Category 1 to Category 5. Deleted Pitch Alert Enable from category 5 Select option and configuration message	-	-
19-FEB-02 – R. Gharpure	7.1.1.4	SCR 5223: Updated 7.1.1.4 to add "Fifteen" & "Eight Hundred" callouts to bits 24 & 25 respectively.	-216	-216
20-FEB-02 – L. Caldeira	7.4-1	SCR 6612: Added pitch alert, category 1, back into the table. This reflects the current implementation and is a comment change only.	-	-

Date - Modified By	Affected Sections	Description of the Updates	Effectivety App.	Effectivety CFI.
22-FEB-02– S.G.H.Bhatta	Table 7.4-1	SCR 3181: Changed the source for Simulator Reposition enable as Category 1 or Category 5	-	-
28-FEB-02 – R. Gharpure	7.1.1.1	SCR 6750: Associated bit 16 of label 270 with "Too Low Nose" phrase.	-216	-216
18-MAR-02–S.G.H.Bhatta	Table 7.4-1	SCR 3181: Modified Simulator Reposition Selected by Category 1/Category 5.	-	-
06-MAY-02 – G. Ostrom	7.1.21 7.1.21.26	SCR 6608: Document only change: Added label 060, Measurement Status: 7.1.21 updated ARINC 429 / 743 Message Summary Table and added 7.1.21.26.	-216	-216
17-JUN-02 – G. Ostrom	7.1.2.6	SCR 6608: Document only change: Updated label 261 (7.1.2.6) transmit interval from 1000 to 500ms.	-216	-216
15-MAY-03 - N Paterson	7.1.1.6	SCR 7498: Added bit 22 definition for RAAS status Reserved bit 25 for Helo Tail Strike INOP (Doc Only)	-218	-218
22-MAY-03 – G. Ostrom	Table 7.4-1	SCR 7499: Updated Table 7.4-1, added RAAS Enable.	-218	-218
30-MAY-03 – G. Ostrom	Table 7.5-2	SCR 7500: Updated Table 7.5-2 to add RAAS Inop and Not Available.	-218	-218
13-JUN-03 – Krish	Table 7.5-2	SCR 7578: Updated Table 7.5-2 to add Terrain Database Incompatible.	-218	-218
16-JUN -03 – G. Ostrom	Table 7.5-2 Table 7.5-2	SCR 7500: Updated Table 7.5-2 with new RAAS Position Error condition signal name. SCR 7578: Updated Table 7.5-2. Revised RAAS Terrain Database Invalid logic.	-218 -218	-218 -218
26-JUN-03 - N Paterson	7.1.20.1	SCR 7498: Added definition for bits 27 and28 for RAAS data.	-218	-218
07-AUG-03 – E. Wilmot	Table 7.1-1 7.1.1.7	SCR 7641: Added label 266 to Table 7.1-1 and added section 7.1.1.7 for RASS Callout Discretes.	-218	-218
07-AUG-03 – E. Wilmot	Table 7.1-1 7.1.1.7	SCR 7641: Table 7.1-1, Changed description for label 266. Section 7.1.1.7, Redefined RAAS Callout Discrete label.	-218	-218
15-AUG-03 – R. Gharpure	Table 7.5-2	SCR 7499: Revised No Valid Runway logic.	-218	-218
29-AUG -03 – G. Ostrom	Table 7.5-2	SCR 7500: Updated formatting of Table 7.5-2 so Runway Awareness – No Valid Runway has a system level response.	-218	-218
29-AUG -03 – G. Ostrom	Table 7.4-1	SCR 7513: Added RUNWAY AWARENESS ENABLE SET configuration message.	-218	-218
01-OCT-03 – E. Wilmot	7.1.1.6	SCR 7718: Revised RAAS output bit definitions	-218	-218
14-OCT-03 – M Henderson	7.1.5.1	SCR 7146: Added note reserving bits 23-25 on label 050, for EM5 use only.	-218	-218
14-OCT-03 – M Henderson	Table 7.5-2	SCR 7156: Added message "Terrain Awareness – Outside Terrain Database" for the system level event "Terrain Not Available".	-	-
08-APR-04 – Gill	Table 7.4-1	SCR 7947: Document Only change. Revised Table to add configuration options and messages. Re-ordered messages to more accurately reflect order of issuance.	-	-
04-AUG-04 - Krish	Table 7.1-1 7.1.97	SCR 8044: Added section 7.1.97 for data to HUD Also updated Table 7.1-1 for label 041 and Note 17	-222	-222
14-SEP-04 – Krish	Table 7.1-1 7.1.97	SCR 8044: Marked the earlier updates for this SCR as future requirements	-	-
01-NOV-05 – M. Henderson	Table 7.1-1 7.1.7	SCR 8174: Added CMC label 350 from MK V platform (section E-7.1).	-224	-224

Date - Modified By	Affected Sections	Description of the Updates	Effectivety App.	Effectivety CFI.
01-NOV-05 – M. Henderson	Table 7.1-1 7.1.98	SCR 8414: Added VSD output labels in table 7.1-1 and section 7.1.98.	-	-
15-NOV-05 – M. Henderson	Table 7.1-1 7.1.7	SCR 8174: Added effectivity note 17 (-224-224 effectivity) to Table 7.1-1 for CMC label 350.	-	-
02-DEC-05 – E. Wilmot	Table 7.1-1	SCR 8414: Corrected title and added note 18 for VSD labels 010/017.	-	-
02-DEC-05 – E. Wilmot	7.1.98	SCR 8414: Corrected title and added 'future' to two of the profile types in the First Descriptor Word.	-	-
24-JAN-06 – M. Calhoun	Table 7.1-1 7.1.97 7.1.5.2	SCR 8470: Marked section 7.1.97 for data to HUD as applicable to -224 and did same to the update to table 7.1-1 for label 041 and its note 17. Added RAAS Inhibit to bit 29 of label 051.	-	-224
25-JAN-06 – M. Calhoun	7.1.97	SCR 8470: Incorporated review comments: Clarify units used in label 041 are always feet. Added effectivity note for label 041 to table 7.1-1. Clarified that bit 29 is the RAAS Inhibit Switch in section 7.1.5.2.	-	-224
16-FEB-06 – M. Calhoun	 7.3.17 7.3.7, 7.3.8	SCR 8201: Made the following doc-only improvements: Added missing description of Pop-Up discrete. Improved description of Displayable discretes.	-	-224
16-FEB-06 – E. Wilmot	Table 7.1-1 Del 7.1.98	SCR 8414: Backed out all associated changes. Changed effectivity of associated, previous audit trail entry.	-	-
30-MAR-06 – L. Matter	7.1.7 7.1.7.1 7.1.7.2	SCR 8598: Delete reference in titles to Boeing & CMC. Add "Formatted for Boeing CMC" in paragraph 7.1.7.1 and 7.1.7.2. Changed existing Fault Summary Word 31. Added new Fault Summary Word #2.	-	-
03-APR-06 – L. Matter	7.1.7.2	SCR 8598: Changed title of section 7.1.7.2 to "Fault Summary Word #2 (354)"	-	-
05-JUN-06 – L Ngo	Table 7.1-1 7.1.98	SCR 8522: Added VSD output labels in table 7.1-1 and added new section 7.1.98.	-226	-226
19-JUN-06 – L Ngo	7.1.98	SCR 8522: (Doc Only) Added reference to -226-226	-226	-226
23-AUG-06 – W. Goo	7.1.21.23	SCR 8760: (Doc only) Corrected whole section.	-226	-226
23-AUG-06 – H. Asha Nand	7.1.5.1	SCR 8670: General Document cleanup.	-	-
20-APR-07 – L. Caldeira	7.1-1	SCR 8835: Added missing label 354. Doc only change.	-228	-228

7.1 ARINC DITS Output Data

The EGPWC provides one ARINC 429 output channel. The outputs consist of internal parameters that can be used by other systems of for test purposes, and discrete outputs that can be used both for test, driving EFIS/EICAS displays, and recording. During LRU self test the SSM of each output label is set to the Functional Test status code. The output types can be summarized as follows.

1) Internal data: Some internal data is output for test purposes only such as Radio Altitude used, Computed True Airspeed, Corrected AOA information, etc.

2) Alert/Warning status: Each type of Voice and Lamp activity is mapped to a specific label/BIT. This can be used to provide inputs to EFIS, EICAS, and flight recorders.

3) Internal Mode status: Various internal EGPWC mode logic is transmitted for test purposes.

4) Terrain Display messages for TAD cockpit integration.

Two channels of ARINC 453 data are provided to drive terrain displays for installations that use the Terrain Awareness display function.

The low speed bus transmits both discrete and BNR labels. In the event of catastrophic computer failure, or 429 transmitter failures, outputs will not be transmitted. During self-test, the SSM will be set to functional test on all outputs (bits 31/30 = 1/0). Unless indicated, for all other conditions of computer or input failures, the 429 outputs continue to be transmitted as actual valid data. For valid status the standard discrete SSM format is used (00) except for data indicated as being in 2's complement format where the standard BNR SSM format is used (11). The SDI bits (9/10) will always be set to "00".

The following table identifies those outputs that are transmitted. Note that the outputs are segregated by functional groups. Refer to the subsections following the table for specific format information for each output. The subsections are in the same order as the table.

TABLE 7.1-1: ARINC 429 DITS OUTPUTS

OPERATIONAL OUTPUTS				
LABEL	**Appendix Reference**	**NAME**	**DESCRIPTION**	**NOTES**
DISCRETE OUTPUT WORDS				
270	7.1.1.1	EGPWC ALERT DISCRETE #1	EGPWC ALERT/WARNING INDICATION	1
274	7.1.1.2	EGPWC ALERT DISCRETE #2	LAMP OUTPUT WORD	1
272	7.1.1.3	MODE 6 CALLOUTS DISCRETE #1	MODE 6 CALLOUT INDICATION #1	1
273	7.1.1.4	MODE 6 CALLOUTS DISCRETE #2	MODE 6 CALLOUT INDICATION #2	1
271	7.1.1.5	EGPWC LOGIC DISCRETES	INTERNAL LOGIC BOOLEANS	1
300	7.1.1.6	EGPWC SYSTEM INOPs	INOP INDICATIONS OF THE MK VII EGPWC FUNCTIONS	1
266	7.1.1.7	EGPWC RAAS CALLOUT DISCRETES	RASS CALLOUTS	2
INTERNAL DATA OUTPUTS . The internal data output labels are lowest priority				
067	7.1.2.8	COMPUTED TERRAIN CLEARANCE	TERRAIN CLEARANCE COMPUTED BY EGPWC	9, 10, 11
135	7.1.2.7	GEOMETRIC ALTITUDE VFOM	COMPUTED GEOMETRIC ALTITUDE VFOM	7, 8
164	7.1.2.1	FILTERED RADIO ALTITUDE	RADIO ALTITUDE FILTERED BY MK VII EGPWC	1
261	7.1.2.6	GEOMETRIC ALTITUDE	COMPUTED GEOMETRIC ALTITUDE	7, 8, 10
310	7.1.2.9	LATITUDE	PRESENT POSITION EGPWS SELECTED LATITUDE	9, 16
311	7.1.2.10	LONGITUDE	PRESENT POSITION EGPWS SELECTED LONGITUDE	9, 16
361	7.1.2.2	COMPUTED INERTIAL ALTITUDE	COMPUTED INERTIAL ALTITUDE	1
365	7.1.2.3	COMPUTED INERTIAL ALTITUDE RATE	COMPUTED INERTIAL ALTITUDE RATE	1
324	7.1.2.4	PITCH ANGLE	PITCH FILTERED BY MK VII EGPWC	1,6
325	7.1.2.5	ROLL ANGLE	ROLL FILTERED BY MK VII EGPWC	1,6

OPERATIONAL OUTPUTS				
LABEL	**Appendix Reference**	**NAME**	**DESCRIPTION**	**NOTES**
HONEYWELL WINDSHEAR OUTPUTS				
223	7.1.3.1	BODY ANGLE OF ATTACK - RIGHT	CORRECTED BODY AOA RIGHT	1, 4
224	7.1.3.2	BODY ANGLE OF ATTACK - LEFT	CORRECTED BODY AOA LEFT	1, 4
242	7.1.3.3	CORRECTED AIRSPEED	TRUE OR CORRECTED CAS AIRSPEED	1, 4
331	7.1.3.4	WINDSHEAR WARNING THRESHOLD	WINDSHEAR WARNING THRESHOLD	1, 4
332	7.1.3.5	CORRECTED LONGITUDINAL ACCELERATION	LONGITUDINAL ACCELERATION CORRECTED BY AOA	1, 4
362	7.1.3.6	RAW TOTAL SHEAR	TOTAL WINDSHEAR MAGNITUDE	1, 4
364	7.1.3.7	CORRECTED NORMAL ACCELERATION	NORMAL ACCELERATION CORRECTED BY AOA	1, 4
375	7.1.3.8	COMPUTED FLIGHT PATH ANGLE	COMPUTED FLIGHT PATH ANGLE	1, 4
376	7.1.3.9	SCALED TOTAL SHEAR	SCALED TOTAL WINDSHEAR MAGNITUDE	1, 4
	7.1.4	**RESERVED**		
TERRAIN DISPLAY OUTPUTS				
050	7.1.5.1	DISPLAYED RANGE	TERRAIN DISPLAY #1 AND #2 RANGE	2, 5
051	7.1.5.2	TERRAIN DISPLAY STATUS WORD	TERRAIN DISPLAY STATUS INFORMATION	2, 5
052	7.1.5.3	MESSAGE WORD #1	COLOR OF DISPLAY MESSAGE	2, 5
053	7.1.5.4	MESSAGE WORD #2	FIRST TWO CHARACTERS OF DISPLAY MESSAGE	2, 5
054	7.1.5.5	MESSAGE WORD #3	SECOND TWO CHARACTERS OF DISPLAY MESSAGE	2, 5
055	7.1.5.6	MESSAGE WORD #4	LAST TWO CHARACTERS OF DISPLAY MESSAGE	2, 5
EQUIPMENT ID				
377	7.1.6.1	EQUIPMENT IDENTIFICATION	PROVIDES ARINC 429 DEFINED EQUIPMENT ID NO. (023)	3
FAULT SUMMARY WORDS -FORMATTED FOR BOEING CMC				
350	7.1.7.1	CMC FAULT SUMMARY WORD 1	FAULTS WORD 1 of 2	17
354	7.1.7.2	CMC FAULT SUMMARY WORD 2	FAULTS WORD 2 of 2	17
	7.1.8 THRU 7.1.18	**RESERVED**		
		BINARY PEAKS ELEVATIONS		
011	7.1.19.1	PEAKS UPPER ELEVATION	UPPER ELEVATION VALUE AND COLOR	10, 11
012	7.1.19.2	PEAKS LOWER ELEVATION	LOWER ELEVATION VALUE AND COLOR	12, 13
DATA FOR THE WEATHER RADAR SYSTEM				
060	7.1.20.1	TERRAIN SELECTION	TERRAIN SELECTION AND RESERVED DATA FOR WXR	9,11
061	7.1.20.2	SRT 0 ANGLE & LRT 1 ANGLE	AUTOTILT ANGLES FOR SECTOR 0 AND 1	9,10,11
062	7.1.20.3	SRT 2 ANGLE & LRT 3 ANGLE	AUTOTILT ANGLES FOR SECTOR 2 AND 3	9,10,11
063	7.1.20.4	SRT 4 ANGLE & LRT 5 ANGLE	AUTOTILT ANGLES FOR SECTOR 4 AND 5	9,10,11
064	7.1.20.5	SRT 6 ANGLE & LRT 7 ANGLE	AUTOTILT ANGLES FOR SECTOR 6 AND 7	9,10,11
065	7.1.20.6	SRT 8 ANGLE & LRT 9 ANGLE	AUTOTILT ANGLES FOR SECTOR 8 AND 9	9,10,11
203	7.1.20.7	STANDARD BARO ALTITUDE	STANDARD BARO ALTITUDE	9,10,11
204	7.1.20.8	BARO CORRECTED ALTITUDE	BARO CORRECTED ALTITUDE	9,10,11, 14
206	7.1.20.9	COMPUTED AIRSPEED	COMPUTED AIRSPEED	9,10,11, 15
210	7.1.20.10	TRUE AIRSPEED	TRUE AIRSPEED	9,10,11, 14
DATA FROM INTERNAL MERCURY GPS (-06x part numbers only)				
	7.1.21	Refer to 7.1.21 for a definition of GPS Output labels	-	
DATA FOR FEDEX HUD				
041	7.1.97	Refer to 7.1.97 for a definition of HUD output label	-	9, 17
DATA FOR VSD				
010/017	7.1.98	Refer to 7.1.98 for a definition of VSD Output labels	-	18

NOTES:
1) Update rate 50 to 100 ms
2) Update rate 100 to 200 ms
3) Update rate 500 to 1000 ms
4) Transmitted only if Windshear enabled
5) Transmitted only if Terrain Awareness function enabled
6) Not available in equivalent MK V EGPWS DITS group
7) Transmitted only if Geometric Altitude Altimetry enabled
8) Update rate 1000 ms (was 500ms prior to –208)
9) Update rate 1000 ms
10) NCD and Failure Warning indications provided
11) Not supported prior to 965-1076-0xx-210-210
12) Transmitted only if Peaks enabled
13) Update rate 500 ms for each SDI
14) These labels are not transmitted when there is no associated input signal available.
15) Only in the 965-1076-0xx-210-210 label 206, Computed Airspeed, is not transmitted when the Airspeed input signal is analog. From the –212 and up label 206 is transmitted regardless of input signal format.
16) Not supported prior to 965-1076-0xx-212-212
17) Not supported prior to 965-1076-0xx-224-224
18) Complete set of up to 126 labels for each side, transmitted every 2 seconds. Not supported prior to 965-1076-0xx-226-226.

7.1.1 Discrete Output Words

The discrete output words transmit the status of all MK VII EGPWC discrete and audio outputs. Label 274 is typically used to drive EFIS and/or EICAS displays. The other discrete labels are typically only used for flight recording and test purposes.

7.1.1.1 MK VII EGPWSAlert Discrete #1 (270)

Data:	Discrete
Label:	270 Octal
Significant Bits:	(see table below)
Sign Bit:	N/A
Transmit Interval:	50 to 100 msec

Bit No.	ASSIGNED WARNING MESSAGE (1 = voice on)
11	SINKRATE-PAUSE-SINKRATE
12	(WHOOP) (WHOOP) PULL UP, or PULL UP
13	TERRAIN OR TERRAIN-TERRAIN
14	DONT SINK-PAUSE-DONT SINK
15	TOO LOW GEAR
16	TOO LOW FLAPS or TOO LOW NOSE (TOO LOW NOSE added in –216-216)
17	TOO LOW TERRAIN
18	GLIDESLOPE
19	MINIMUMS MINIMUMS
20	TERRAIN PULLUP
21	CAUTION TERRAIN
22	TERRAIN AHEAD PULL UP or OBSTACLE AHEAD PULL UP (Note)
23	(SIREN) WINDSHEAR WINDSHEAR WINDSHEAR, or WINDSHEAR WINDSHEAR WINDSHEAR
24	CAUTION WINDSHEAR
25	ENGINE FAIL (Not supported in 965-1076-xxx-xxx-xxx)
26	VEE ONE (Not supported in 965-1076-xxx-xxx-xxx)
27	TERRAIN AHEAD Note: This is the alternate Terrain Caution voice.
28	CAUTION OBSTACLE or OBSTACLE AHEAD (Note)
29	OBSTACLE OBSTACLE (Note)

Note: Definition added in P/N 965-1076-XXX-204-204.

7.1.1.2 MK VII EGPWSAlert Discrete #2 (274)

Data:	Discrete
Label:	274 Octal
Significant Bits:	(see table below)
Sign Bit:	N/A
Transmit Interval:	50 to 100 msec

Bit No.	ASSOCIATED DISCRETE PIN	DEFINITION (1 = ON)
11	J1A-21	Discrete Output DOUTL6, typically GLIDESLOPE CANCEL, Note 1
12	J1B-33	Discrete Output DOUTL10, typically GPWS ALERT, Note 1
13	J1B-11	Discrete Output DOUTL9, typically GPWS WARNING, Note 1
14	----	GPWS INOP
15	J2-A02	Discrete Output DOUTL2, typically WINDSHEAR WARNING, Note 1
16	J2-B13	Discrete Output DOUTL4, typically AUDIO ON, Note 1
17	----	WINDSHEAR INOP
18	J2-A01	Discrete Output DOUTL1, typically WINDSHEAR CAUTION, Note 1
19	----	CALLOUTS INOP
20	----	VEE ONE INOP
21	----	ENGINE FAIL INOP
22	----	TERRAIN AWARENESS WARNING or OBSTACLE AWARENESS WARNING (Note)
23	----	TERRAIN AWARENESS CAUTION or OBSTACLE AWARENESS CAUTION (Note)
24	----	TERRAIN AWARENESS INOP
25	FRONT PANEL LED	EXTERNAL FAULT
26	FRONT PANEL LED	COMPUTER FAIL
27	----	TERRAIN AWARENESS NOT AVAILABLE
28	J1A-13	Discrete Output DOUTL5, typically TERRAIN DISPLAY SWITCHING DISCRETE #1 (Wx/EGPWC), Note 1
29	J2-F02	Discrete Output DOUTL3, typically TERRAIN DISPLAY SWITCHING DISCRETE #2 (Wx/EGPWC) , Note 1

Note: Definition added in P/N 965-1076-XXX-204-204.

Note 1: See Section 5.2.14 Category 14 Input/Output Discrete Function Mapping for specific application

7.1.1.3 Mode 6 Callouts Discrete #1 (272)

Data:	Discrete
Label:	272 Octal
Significant Bits:	(see table below)
Sign Bit:	N/A
Transmit Interval:	50 to 100msec

BIT NO	WARNING MESSAGE (1 = voice on)
11	MINIMUMS
12	DECISION HEIGHT
13	APPROACHING MINIMUMS
14	APPROACHING DECISION HEIGHT
15	ZERO
16	TEN
17	TWENTY
18	THIRTY
19	FORTY
20	FIFTY
21	SIXTY
22	EIGHTY
23	ONE HUNDRED
24	TWO HUNDRED
25	THREE HUNDRED
26	MINIMUM
27	PLUS HUNDRED
28	DECIDE
29	FIFTY ABOVE

7.1.1.4 Mode 6 Callouts Discrete #2 (273)

Data:	Discrete
Label:	273 Octal
Significant Bits:	(see table below)
Sign Bit:	N/A
Transmit Interval:	50 to 100 msec

BIT NO	DEFINITION (1 = voice on)
11	FOUR HUNDRED
12	FIVE HUNDRED (NORMAL OR SMART)
13	ONE THOUSAND
14	700 HZ TONE
15	960 HZ TONE (Indicates 500 ft or Altitude Alert, depending on configuration. Altitude Alert was added in –208-208.)
16	1400 HZ TONE
17	2800 HZ TONE
18	BANK ANGLE (pause) BANK ANGLE or BANK ANGLE BANK ANGLE or single BANK ANGLE (single "Bank Angle" was added in –208-208)
19	THIRTY FIVE
20	TWENTY FIVE HUNDRED
21	RADIO ALTIMETER
22	FIVE
23	PITCH ATTITUDE PITCH ATTITUDE (added in –214-214)
24	FIFTEEN (added in –216-216)
25	EIGHT HUNDRED (added in –216-216)
26	ALTITUDE ALTITUDE (Military types only –208-208)
27	FLAPS (pause) FLAPS (C-130 Only, Added in –208-208)
28	AUTOPILOT (Added in –208-208)
29	SPEED BRAKE (pause) SPEED BRAKE (Not supported in 965-1076-xxx-xxx-xxx)

7.1.1.5 MK VII EGPWC Logic Discretes (271)

Data:	Discrete
Label:	271 Octal
Significant Bits:	(see table below)
Sign Bit:	N/A
Transmit Interval:	100 to 200 msec

BIT No.	DEFINITION NOTE (*): Bits 11, 12, 16, 17, 26 and 29 will be set to zero if the Windshear function is disabled)
* 11	GPW INHIBIT (by windshear)
* 12	WS ALERT INHIBIT (for Honeywell Windshear Only)
13	TERRAIN CLEARANCE FLOOR ALERT
14	ENVELOPE MOD IN PROGRESS
15	ENVELOPE MOD SNAPSHOT LATCH SET
* 16	WINDSHEAR TAKE-OFF
* 17	WINDSHEAR MASTER VALID
18	TAKE-OFF MODE
19	MODE 1 SINKRATE (Also set to “1” during Terrain Caution Selftest)
20	MODE 1 PULL UP (Also set to “1” during Pull Up or Terrain Warning Selftest)
21	MODE 2 TERRAIN
22	MODE 2 PULL UP
23	MODE 3 VISUAL
24	MODE 4 VISUAL
25	MODE 5 VISUAL (Also set to “1” during Glideslope Alert Selftest)
* 26	MODE 7 VISUAL ALERT (Also set to “1” during Windshear Caution Selftest)
27	TERRAIN AWARENESS CAUTION (Also set to “1” during Terrain Caution Selftest)
28	TERRAIN AWARENESS WARNING (Also set to”1” during Terrain Warning Selftest)
* 29	MODE 7 VISUAL WARNING (Also set to “1” during Windshear Warning Selftest)

7.1.1.6 MK VII EGPWC Alert Discrete #3 (300)

Data:	Discrete
Label:	300 Octal
Significant Bits:	(see table below)
Sign Bit:	N/A
Transmit Interval:	50 to 100 msec

BIT No.	DEFINITION
11	MODES 1-4 INOP
12	MODE 5 INOP
13	MODE 6 INOP
14	BANK ANGLE INOP
15	MODE 7 INOP
16	TERRAIN CLEARANCE FLOOR INOP
17	TERRAIN AWARENESS INOP
18	ENVELOPE MODULATION INOP
19	SPEED BRAKE INHIBIT (Not supported in 965-1076-xxx-xxx-xxx)
20	SPEED BRAKE ALERT (Not supported in 965-1076-xxx-xxx-xxx)
21	TCAS INHIBIT
22	RAAS INOP TRUE or RAAS ENABLE FALSE or RAAS NOT AVAILABLE TRUE or RAAS INHIBIT DISCRETE TRUE (added in -218-218)
23	PITCH ANGLE ALERT (added in –214-214)
24	PITCH ANGLE INOP (added in –214-214)
25	Reserved for Helo Tail Strike INOP
26	TACTICAL SELECT (added in –208-208)
27	FLAP OVERRIDE LATCH (added in –208-208)
28	OBSTACLE AWARENESS CAUTION Obstacle alerts introduced in P/N 965-1076-XXX-204-204
29	OBSTACLE AWARENESS WARNING Obstacle alerts introduced in P/N 965-1076-XXX-204-204

7.1.1.7 EGPWC RAAS Callout Discretes (266)

Data:	Discrete
Label:	266 Octal
Significant Bits:	(see table below)
Sign Bit:	N/A
Transmit Interval:	100 to 200 msec

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BIT No.	DEFINITION
11	"APPROACHING RUNWAY XXX[1]" - IN AIR
12	"APPROACHING RUNWAY RUNWAYS" - IN AIR
13	"APPROACHING RUNWAY XXX[1] - YYYY[2] AVAILABLE"
14	"APPROACHING RUNWAY XXX[1]" - ON GROUND
15	"APPROACHING RUNWAY RUNWAYS" - ON GROUND
16	"ON RUNWAY XXX[1]"
17	"ON RUNWAY RUNWAYS"
18	"ON RUNWAY XXX[1] - YYYY[2] REMAINING"
19	"ON RUNWAY XXX[1] - ON RUNWAY XXX[1]"
20	"ON TAXIWAY - ON TAXIWAY"
21	"7000/2100 REMAINING" [3]
22	"6000/1800 REMAINING" [3]
23	"5000/1500 REMAINING" [3]
24	"4000/1200 REMAINING" [3]
25	"3000/900 REMAINING" [3]
26	"2000/600 REMAINING" [3]
27	"1000/300 REMAINING" [3]
28	"500/100 REMAINING" [3]
29	"100/30 REMAINING" [3]

1. Where XXX is the Aligned Runway ID.
2. Where YYYY is the Runway Length rounded down to the nearest 100ft/30m.
3. Call out is in either feet or meters, i.e. 3000ft/900m, depending on the Global configuration option of [RWY_Meters].

7.1.2 Internal Data Outputs

Internal data outputs may be used by other systems or for test purposes.

7.1.2.1 Filtered Radio Altitude (164)

LABEL (Octal) 164	Units: Feet	Max. Range: ± 8,192 Feet	Approx. LSB: 1.0 Foot
Data Bits: 16 to 28 = 13	+ = Above Sea Level (ASL)	Sign Bit: 29	Pad Bits: 11 to 15
Transmit Interval (mSec): 50 to 100	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.2.2 Computed Inertial Altitude (361)

LABEL (Octal) 361	Units: Feet	Max. Range: ± 32,768 Feet	Approx. LSB: 1.0 Foot
Data Bits: 14 to 28 = 15	+ = Above Sea Level (ASL)	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 100 to 200	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.2.3 Computed Inertial Altitude Rate (365)

LABEL (Octal) 365	Units: Feet/Minute	Max. Range: ± 32,768 Ft/Min	Approx. LSB: 1 Foot/Min
Data Bits: 14 to 28 = 15	+ = Ascent	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 100 to 200	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.2.4 Pitch Angle (324)

LABEL (Octal) 324	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.01099 Deg
Data Bits: 15 to 28 = 14	+ = Nose Up	Sign Bit: 29	Pad Bits: 11 to 14
Transmit Interval (mSec): 10 to 20	Data Type: 2's Complement Binary		SDI Bits: 9, 10

7.1.2.5 Roll Angle (325)

LABEL (Octal) 325	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.01099 Deg
Data Bits: 15 to 28 = 14	+ = Right Wing Down	Sign Bit: 29	Pad Bits: 11 to 14
Transmit Interval (mSec): 10 to 36	Data Type: 2's Complement Binary		SDI Bits: 9, 10

7.1.2.6 Geometric Altitude (261)[1]

LABEL (Octal) 261	Units: Feet	Max. Range: 131,072 Ft	Approx. LSB: 0.125 Foot
Data Bits: 9 to 28 = 20	+ = Above Sea Level (ASL)	Sign Bit: 29	Pad Bits: N/A
Transmit Interval (mSec): 500 Nominal (was 500mSec prior to –208) Was 500ms prior to –208 when it was changed to 1000ms. Then it was put back to 500ms as of –216.	Data Type: 2's Compliment Binary		SDI Bits: N/A

7.1.2.7 Geometric Altitude VFOM (135) [1]

LABEL (Octal) 135	Units: Feet	Max. Range: 32,768 Ft	Approx. LSB: 0.125 Foot
Data Bits: 11 to 28 = 18	+ = N/A	Sign Bit: 29	Pad Bits: N/A
Transmit Interval (mSec): 1000 Nominal (was 500mSec prior to –208)	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

[1]Not Supported prior to 965-1076-0xx-206-206

7.1.2.8 Computed Terrain Clearance (067) [2]

LABEL (Octal) 067	Units: Feet	Max. Range: 131,072 Ft	Approx. LSB: 1.0 Foot
Data Bits: 12 to 28 = 17	+ = Above Ground Level	Sign Bit: 29	Pad Bits: N/A
Transmit Interval (mSec): 1000 Nominal	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

Bit	7.1.21.2.10.1 Definitions
11	Set to 1 when Computed Terrain Clearance low quality is indicated
12 – 28	Computed Terrain Clearance

[2]Not Supported prior to 965-1076-0xx-210-210

7.1.2.9 Latitude – Selected EGPWS (310) [3]

LABEL (Octal) 310	Units: Degrees	Max. Range: ± 180 Degrees	LSB: 0.00017166137695
Data Bits: 9 to 28 = 20	+ = North	Sign Bit: 29	Pad Bits: N/A
Transmit Interval (mSec): 1000 Nominal	Data Type: 2's Compliment Binary		SDI Bits: used for data

7.1.2.10 Longitude – Selected EGPWS (311) [3]

LABEL (Octal) 311	Units: Degrees	Max. Range: ± 180 Degrees	LSB: 0.00017166137695
Data Bits: 9 to 28 = 20	+ = East	Sign Bit: 29	Pad Bits: N/A
Transmit Interval (mSec): 1000 Nominal	Data Type: 2's Compliment Binary		SDI Bits: used for data

[3]Not Supported prior to 965-0976-0xx-212-212

7.1.3 Honeywell Windshear Algorithm Outputs

These output labels are only output when the Honeywell Windshear Algorithm is enabled and are only used for test purposes.

7.1.3.1 Body Angle of Attack—Right (223)

LABEL (Octal) 223	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.00549 Degree
Data Bits: 14 to 28 = 15	+ = Nose Up	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 50 to 100	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.3.2 Body Angle of Attack—Left (224)

LABEL (Octal) 224	Units: Degrees/180	Max. Range: ± 180 Degrees	Approx. LSB: 0.00549 Degree
Data Bits: 14 to 28 = 15	+ = Nose Up	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 50 to 100	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.3.3 Corrected Airspeed (242)

LABEL (Octal) 242	Units: Feet/Second	Max. Range: 2,048 Ft/Sec	Approx. LSB: 0.0625 Ft/Sec
Data Bits: 14 to 28 = 15	+ = Forward	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 50 to 100	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.3.4 Windshear Warning Threshold (331)

LABEL (Octal) 331	Units: g's	Max. Range: 0.0 to - 4.0 g's	Approx. LSB: 0.00012207 g's
Data Bits: 14 to 28 = 15	+ = N/A Always Negative	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 50 to 100	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.3.5 Corrected Longitudinal Acceleration (332)

Note: Longitudinal Acceleration is corrected by Cosine Body Angle of Attack

LABEL (Octal) 332	Units: g's	Max. Range: ± 4.0 g's	Approx. LSB: 0.00012207 g's
Data Bits: 14 to 28 = 15	+ = Forward	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 50 to 100	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.3.6 Raw Total Shear (362)

LABEL (Octal) 362	Units: g's	Max. Range: ± 4.0 g's	Approx. LSB: 0.00012207 g's
Data Bits: 14 to 28 = 15	+ = Headwind/Updraft	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 50 to 100	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.3.7 Corrected Normal Acceleration (364)

Note: Longitudinal Acceleration is corrected by Cosine Body Angle of Attack

LABEL (Octal) 364	Units: g's	Max. Range: ± 4.0 g's	Approx. LSB: 0.00012207 g's
Data Bits: 14 to 28 = 15	+ = Up	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 50 to 100	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.3.8 Computed Flight Path Angle (375)

LABEL (Octal) 375	Units: Radians	Max. Range: ± 4 Radians	Approx. LSB: 0.00012207 Radian
Data Bits: 14 to 28 = 15	+ = Nose Up	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 50 to 100	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.3.9 Scaled Total Shear (376)

LABEL (Octal) 376	Units: g's	Max. Range: ± 4.0 g's	Approx. LSB: 0.00012207 g's
Data Bits: 14 to 28 = 15	+ = Headwind/Updraft	Sign Bit: 29	Pad Bits: 11 to 13
Transmit Interval (mSec): 50 to 100	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.4 RESERVED

7.1.5 Terrain Display Outputs

The following ARINC 429 outputs support the Terrain Display function.

7.1.5.1 Displayed Range (050)

Data: Discrete	Label (Octal): 050	Transmit Interval: 100 to 200 msec

BIT NO	DEFINITION
11 – 14	TERRAIN DISPLAY RANGE #1 (0.5 to 2000 NM format)
15 – 18	TERRAIN DISPLAY RANGE #2 (0.5 to 2000 NM format)
19 – 22	UNDEFINED
23 – 25	RESERVED FOR EM5 USE. (See EM5 ICD E-5.1, where bits 23-25 are defined for FWC label 171 only)
26 – 29	UNDEFINED

NOTE: Bits contain left and right side Terrain Display Ranges (0.5 to 2000 NM, format as follows)

DISPLAY RANGE BIT ASSIGNMENTS			
(Bits 14-11), & (Bits 18-15)	DEFINITION	(Bits 14-11), & (Bits 18-15)	DEFINITION
0000	0.5 NM	1000	150 NM
0001	1.0 NM	1001	200 NM
0010	2.5 NM	1010	300 NM
0011	5.0 NM	1011	500 NM
0100	10 NM	1100	1000 NM
0101	25 NM	1101	2000 NM
0110	50 NM	1110	600 NM
0111	100 NM	1111	1200 NM

7.1.5.2 Terrain Display Status Word (051)

Data: Discrete	Label (Octal): 051	Transmit Interval: 100 to 200 msec

BIT NO	DEFINITION
11	POP UP BOOLEAN #1
12	POP UP BOOLEAN #2
13	TERRAIN DISPLAY VALID (cleared when TERRAIN AWARENESS NOT AVAILABLE or TERRAIN AWARENESS INOP are true)
14	SPARE
15	SPARE
16	FLAP OVERRIDE (Only from ARINC 429 FWC discrete word label 171, not from discrete switch)
17	TERRAIN AWARENESS & TCF INHIBIT
18	SPARE
19	SPARE
20	TERRAIN RELAY 1 FAULT (Introduced in P/N 965-1076-XXX-213-213)
21	TERRAIN RELAY 2 FAULT (Introduced in P/N 965-1076-XXX-213-213)
22	SPARE
23	SPARE
24	OBSTACLE AWARENESS CAUTION (Obstacle alerts introduced in P/N 965-1076-XXX-213-213)
25	OBSTACLE AWARENESS WARNING (Obstacle alerts introduced in P/N 965-1076-XXX-213-213)
26	TERRAIN DISPLAY CAUTION
27	TERRAIN DISPLAY WARNING
28	STEEP APPROACH ACTIVATED
29	RAAS INHIBITED (RAAS Inhibit cockpit switch state; 1 = Inhibit Selected) Added in -224-224

7.1.5.3 Message Word #1 (052)

This label contains the color to be displayed on the 6-character terrain display window.

Data: Discrete		Label (Octal): 052	Transmit Interval: 100 to 200 msec	
BIT NO	DEFINITION		BIT Coding	COLOR Code (Hex)
9 - 10	SDI (00)			
11	Spare			
12	Spare			
13	Spare			
14	Spare			
15	Spare			
16	Spare			
17	Spare			
18	Spare			
19	Spare			
20	Spare			
21	Spare			
22	Spare			
23	Character Color		LSB (7 bit Hex)	BITS 0000001 = **Red** 0000010 = **Amber** 0000011 = **Yellow** 0000100 = **Green** 0000101 = **Cyan** 0000110 = **Magenta** 0000111= **White**
24	Character Color			
25	Character Color			
26	Character Color (not currently used)			
27	Character Color (not currently used)			
28	Character Color (not currently used)			
29	Character Color (not currently used)		MSB (7 bit Hex)	

7.1.5.4 Message Word #2 (053)

This label contains the first 2 characters to be displayed on the 6-character terrain display window.

Data: Discrete		Label (Octal): 053	Transmit Interval: 100 to 200 msec		
BIT NO	DEFINITION		BIT Coding	TEXT Code (Hex)	TEXT Code (Hex)
9,10	SDI (00)				
11	Spare			20 = (space)	30 = **0**
12	Spare			21 = **!**	31 = **1**
13	Spare			22 = **“**	32 = **2**
14	Spare			23 = **#**	33 = **3**
15	Spare			24 = **%**	34 = **4**
16	Character Code - Left Most of Set 1 of 6		LSB (7 bit Hex)	25 = **$**	35 = **5**
17	Character Code - Left Most of Set 1 of 6			26 = **&**	36 = **6**
18	Character Code - Left Most of Set 1 of 6			27 = **‘**	37 = **7**
19	Character Code - Left Most of Set 1 of 6			28 = **(**	38 = **8**
20	Character Code - Left Most of Set 1 of 6			29 = **)**	39 = **9**
21	Character Code - Left Most of Set 1 of 6			2A = *****	3A = **:**
22	Character Code - Left Most of Set 1 of 6		MSB (7 bit Hex)	2B = **+**	3B = **;**
23	Character Code - Next Most of Set 2 of 6		LSB (7 bit Hex)	2C = **,**	3C = **<**
24	Character Code - Next Most of Set 2 of 6			2D = **-**	3D = **=**
25	Character Code - Next Most of Set 2 of 6			2E = **.**	3E = **>**
26	Character Code - Next Most of Set 2 of 6			2F = **/**	3F = **?**
27	Character Code - Next Most of Set 2 of 6				Continued at
28	Character Code - Next Most of Set 2 of 6				LABEL 054 Below
29	Character Code - Next Most of Set 2 of 6		MSB (7 bit Hex)		

7.1.5.5 Message Word #3 (054)

This label contains the second 2 characters to be displayed on the 6 character terrain display window.

Data: Discrete		Label (Octal): 054	Transmit Interval: 100 to 200 msec		
BIT NO	DEFINITION		BIT Coding	TEXT Code (Hex)	TEXT Code (Hex)
9,10	SDI (00)				
11	Spare			Continued from	
12	Spare			LABEL 053 Above	
13	Spare				50 = **P**
14	Spare			40 = **°** (Deg Sign)	51 = **Q**
15	Spare			41 = **A**	52 = **R**
16	Character Code - Next Most of Set 3 of 6		LSB (7 bit Hex)	42 = **B**	53 = **S**
17	Character Code - Next Most of Set 3 of 6			43 = **C**	54 = **T**
18	Character Code - Next Most of Set 3 of 6			44 = **D**	55 = **U**
19	Character Code - Next Most of Set 3 of 6			45 = **E**	56 = **V**
20	Character Code - Next Most of Set 3 of 6			46 = **F**	57 = **W**
21	Character Code - Next Most of Set 3 of 6			47 = **G**	58 = **X**
22	Character Code - Next Most of Set 3 of 6		MSB (7 bit Hex)	48 = **H**	59 = **Y**
23	Character Code - Next Most of Set 4 of 6		LSB (7 bit Hex)	49 = **I**	5A = **Z**
24	Character Code - Next Most of Set 4 of 6			4A = **J**	5B = **[**
25	Character Code - Next Most of Set 4 of 6			4B = **K**	5C = \
26	Character Code - Next Most of Set 4 of 6			4C = **L**	5D = **]**
27	Character Code - Next Most of Set 4 of 6			4D = **M**	5E = ^
28	Character Code - Next Most of Set 4 of 6			4E = **N**	5F = _ (underscore)
29	Character Code - Next Most of Set 4 of 6		MSB (7 bit Hex)	4F = **O**	00 = (Null)

NOTE: Text code for degree sign is non-standard ASCII for 40_{HEX}.

7.1.5.6 Message Word #4 (055)

This label contains the last 2 characters to be displayed on the 6-character terrain display window.

Data: Discrete		Label (Octal): 055	Transmit Interval: 100 to 200 msec		
BIT NO	DEFINITION		BIT Coding		
9,10	SDI (00)				
11	Spare				
12	Spare				
13	Spare				
14	Spare				
15	Spare				
16	Character Code - Next Most of Set 5 of 6		LSB (7 bit Hex)		
17	Character Code - Next Most of Set 5 of 6				
18	Character Code - Next Most of Set 5 of 6				
19	Character Code - Next Most of Set 5 of 6				
20	Character Code - Next Most of Set 5 of 6				
21	Character Code - Next Most of Set 5 of 6				
22	Character Code - Next Most of Set 5 of 6		MSB (7 bit Hex)		
23	Character Code - Right Most of Set 6 of 6		LSB (7 bit Hex)		
24	Character Code - Right Most of Set 6 of 6				
25	Character Code - Right Most of Set 6 of 6				
26	Character Code - Right Most of Set 6 of 6				
27	Character Code - Right Most of Set 6 of 6				
28	Character Code - Right Most of Set 6 of 6				
29	Character Code - Right Most of Set 6 of 6		MSB (7 bit Hex)		

7.1.6 Equipment Identification

Provides equipment identification for maintenance reporting.

7.1.6.1 Equipment Identification Word (377)

Data: Discrete	Label (Octal): 377	Transmit Interval: 500 to 1,000 msec

BIT NO	DEFINITION
11 - 22	ID Code Equipment ID code = 023 Hex for EGPWC.
23	LRU Bus Activity bit
24 - 29	Spare (set to zero)

7.1.7 Fault Summary Words

7.1.7.1 Fault Summary Word #1 (350)

Bits in label 350 are set indicating the failures listed. Items in italics indicate that the bit is set if the Present Status message indicated in italics is currently true. Formatted for Boeing CMC.

Data: Discrete	Label (Octal): 350	Transmit Interval: 100 msec

BIT	DEFINITION
	(BIT = 1 for:)
11	*RADIO ALTIMETER BUS INACTIVE* or (Reference channel 4) *RADIO ALTIMETER BUS 1 INACTIVE* or *LEFT RADIO ALTIMETER BUS INACTIVE*
12	*AIR DATA BUS INACTIVE* or (Reference channel 3) *AIR DATA BUS 1 INACTIVE* *DADC BUS 1 INACTIVE* *DAU BUS 1 INACTIVE*
13	*IRS BUS INACTIVE* or (Reference channel 4 or 6) *IRS BUS 1 INACTIVE*
14	FLAP DISCRETE FAIL
15	GEAR DISCRETE FAIL
16	*ILS BUS INACTIVE* or (Reference channel 2) *ILS BUS 1 INACTIVE*
17	N/A
18	GLIDESLOPE CANCEL DISCRETE FAIL
19	N/A
20	N/A
21	*FMC BUS INACTIVE* or (Reference channel 5) *FMC BUS 1 INACTIVE*
22	PROGRAM PIN FAULT (SEE NOTE)
23	EGPWC FAILURE
24	*EFIS BUS 1 INACTIVE* or (Reference channel 16) *DISPLAY BUS 1 INACTIVE* *FDR BUS 1 INACTIVE* *KCPB BUS 1 INACTIVE*
25	N/A
26	*WEATHER RADAR HAZARD BUS INACTIVE* or *WEATHER RADAR HAZARD BUS 1 INACTIVE* (Reference channel 12)
27	AIR/GROUND DISCRETE FAIL
28	EGPWC SELF TEST INHIBITED
29	N/A

NOTE: BIT SET FOR PARITY FAILURE OR INVALID OPTION SELECTION
N/A = Not Applicable for MK VII installations

7.1.7.2 Fault Summary Word #2 (354)

Bits in label 354 are set indicating the failures listed. Items in italics indicate that the bit is set if the Present Status message indicated in italics is currently true. Formatted for Boeing CMC.

Data: Discrete	Label (Octal): 354	Transmit Interval: 100 msec

BIT	DEFINITION	
	(BIT = 1 for:)	
11	N/A	
12	*IRS BUS 2 INACTIVE*	(Reference channel 4)
13	*ADC BUS 2 INACTIVE* or *DADC BUS 2 INACTIVE* *DAU BUS 2 INACTIVE*	(Reference channel 1)
14	*WEATHER RADAR HAZARD BUS 2 INACTIVE*	(Reference channel 6)
15	*EFIS BUS 2 INACTIVE* or *DISPLAY BUS 2 INACTIVE* *KCPB BUS 2 INACTIVE* *FDR BUS 2 INACTIVE*	(Reference channel 17)
16	*GPS BUS 2 INACTIVE*	(Reference channel 2)
17	*GPS BUS INACTIVE* or *GPS BUS 1 INACTIVE*	(Reference channel 6)
18	SPARE	
19	SPARE	
20	N/A	
21	N/A	
22	N/A	
23	N/A	
24	*WX/EGPWC DISPLAY SELECT DISCRETE #1 FAULT*	(Reference DO #5 J1A-13)
25	*WX/EGPWC DISPLAY SELECT DISCRETE #2 FAULT*	(Reference DO #3 J2-F02)
26	*FMC BUS 2 INACTIVE*	(Reference channel 2)
27	N/A	
28	*RAAS Not Available* TRUE or *RAAS Enable* FALSE or *RAAS Inhibit Discrete* TRUE	
29	*RAAS INOP* TRUE or *RAAS Enable* FALSE	

N/A = Not Applicable for MK VII EGPWS installations.

7.1.8 RESERVED
7.1.9 RESERVED
7.1.10 RESERVED
7.1.11 RESERVED
7.1.12 RESERVED
7.1.13 RESERVED
7.1.14 RESERVED
7.1.15 RESERVED
7.1.16 RESERVED
7.1.17 RESERVED
7.1.18 RESERVED
7.1.19 Peak Binary Labels

These labels are not supported prior to 965-1076-0xx-210-210.

The following ARINC 429 outputs are used to provide Peak Elevations and color information for integrated displays. This label set consists of 2 labels containing upper and lower elevation, color, and display blanking data. Each label is transmitted with two different SDI values for the captain's and first officer's display values.

7.1.19.1 Peaks Upper Elevation (011)

Data: See Below	Label (Octal): 011	Transmit Interval: 500 msec

BIT NO	DEFINITION								
9	SDI	0 Not Used		1 Captain		0 F/O		1 Not Used	
10	SDI	0		0		1		1	
11	COLOR BIT 1	0	1	0	1	0	1	0	1
12	COLOR BIT 2	0 Black	0 Green	1 Yellow	1 Red	0 Magenta	0 Blue	1 Cyan	1 White
13	COLOR BIT 3	0	0	0	0	1	1	1	1
14	BLANK PEAKS ELEVATION DISPLAY			0 Normal Display			1 Blank Display		
15	DASH PEAKS ELEVATION DISPLAY			0 Normal Display			1 Display Dashes		
16 - 19	SPARE								
20	100 Ft								
21	200 Ft								
22	400 Ft								
23	800 Ft								
24	1600 Ft								
25	3200 Ft								
26	6400 Ft								
27	12800 Ft								
28	25600 Ft								
29	SIGN	0 = 0 (Plus)	1 = - 51200 Ft						
30	SSM	0 Failure		1 No Computed		0 Functional Test		1 Normal	
31	SSM	0 Warning		0 Data		1		1 Operation	
32	PARITY (Odd)								

Upper Peaks Elevation

7.1.19.2 Peaks Lower Elevation (012)

Data: See Below	Label (Octal): 012	Transmit Interval: 500 msec

BIT NO	DEFINITION								
9	SDI	0 Not Used		1 Captain		0 F/O		1 Not Used	
10	SDI	0		0		1		1	
11	COLOR BIT 1	0	1	0	1	0	1	0	1
12	COLOR BIT 2	0 Black	0 Green	1 Yellow	1 Red	0 Magenta	0 Blue	1 Cyan	1 White
13	COLOR BIT 3	0	0	0	0	1	1	1	1
14	BLANK PEAKS ELEVATION DISPLAY			0 Normal Display			1 Blank Display		
15	DASH PEAKS ELEVATION DISPLAY			0 Normal Display			1 Display Dashes		
16 - 19	SPARE								
20	100 Ft								
21	200 Ft								
22	400 Ft								
23	800 Ft								
24	1600 Ft								
25	3200 Ft								
26	6400 Ft								
27	12800 Ft								
28	25600 Ft								
29	SIGN	0 = 0 (Plus)	1 = - 51200 Ft						
30	SSM	0 Failure		1 No Computed		0 Functional Test		1 Normal	
31	SSM	0 Warning		0 Data		1		1 Operation	
32	PARITY (Odd)								

Lower Peaks Elevation

7.1.20 Data For The Weather Radar System

7.1.20.1 Terrain Selection (060) [2]

LABEL (Octal) 060	Units: N/A	Max. Range: N/A	Approx. LSB: N/A
Data Bits: see table below	+ = N/A	Sign Bit: N/A	Pad Bits: N/A
Transmit Interval (mSec): 1000 Nominal	Data Type: N/A		SDI Bits: 9, 10

Label 060 Definition - For label 060, the Weather Radar currently only uses bits 25 and 26 for the Autotilt function. Bits 27 and 28 definition have been added at Radar's request for RAAS (218 and following). The remainder will be used for the future terrain data correlation function. Bits 25 and 26 indicate if terrain is selected for display. Neither the EGPWS nor the radar R/T receive feedback regarding if weather is selected for display, so if terrain is selected (implying weather is not) then this range will not be used in determining the proper tilt value.

BITS	DEFINITION	COMMENTS
1-8	Label (Octal)	060
9-10	SDI	N/A, set to 0s
11-17	Reserved for TILT ANGLE (Terrain Data Correlation Tilt)	Per ARINC 708A definition, Bit 11 LSB
18-24	Reserved for Frame Number	
25	**Terrain Selected - Left**	
26	**Terrain Selected - Right**	
27	**On Runway Trigger**	0 = Not on Runway 1 = On Runway (in runway box and within 20 degrees of runway heading)
28	**Wxr RAAS Available**	1 = RAAS Available 0 = RAAS Not Available
29	Spare	
30-31	SSM	BIT 31 30 1 0 TEST 1 1 NORM
32	PARITY	Set to ODD

7.1.20.2 SRT 0 Angle and LRT 1 Angle (061) [2]

LABEL (Octal) 061	Units: degrees	Max. Range: -16 to + 15.875 Degrees	Approx. LSB: 0.125 degrees
Data Bits: 11 to 18 = 8, 19 to 26 = 8	+ = upward from horizontal	Sign Bit: 18, 26	Pad Bits: N/A
Transmit Interval (mSec): 1000 Nominal	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.20.3 SRT 2 Angle and LRT 3 Angle (062) [2]

LABEL (Octal) 062	Units: degrees	Max. Range: -16 to + 15.875 Degrees	Approx. LSB: 0.125 degrees
Data Bits: 11 to 18 = 8, 19 to 26 = 8	+ = upward from horizontal	Sign Bit: 18, 26	Pad Bits: N/A
Transmit Interval (mSec): 1000 Nominal	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.20.4 SRT 4 Angle and LRT 5 Angle (063) [2]

LABEL (Octal) 063	Units: degrees	Max. Range: -16 to + 15.875 Degrees	Approx. LSB: 0.125 degrees
Data Bits: 11 to 18 = 8, 19 to 26 = 8	+ = upward from horizontal	Sign Bit: 18, 26	Pad Bits: N/A
Transmit Interval (mSec): 1000 Nominal	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.20.5 SRT 6 Angle and LRT 7 Angle (064) [2]

LABEL (Octal) 064	Units: degrees	Max. Range: -16 to + 15.875 Degrees	Approx. LSB: 0.125 degrees
Data Bits: 11 to 18 = 8, 19 to 26 = 8	+ = upward from horizontal	Sign Bit: 18, 26	Pad Bits: N/A
Transmit Interval (mSec): 1000 Nominal	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

7.1.20.6 SRT 8 Angle and LRT 9 Angle (065) [2]

LABEL (Octal) 065	Units: degrees	Max. Range: -16 to + 15.875 Degrees	Approx. LSB: 0.125 degrees
Data Bits: 11 to 18 = 8, 19 to 26 = 8	+ = upward from horizontal	Sign Bit: 18, 26	Pad Bits: N/A
Transmit Interval (mSec): 1000 Nominal	Data Type: 2's Compliment Binary		SDI Bits: 9, 10

Table 7.1.20-1: Label 61-65 data

429 LABEL	TRANSMISSION RATE	SECTORS	Mapped Variable on bits 11-18	Mapped Variable on bits 19-26
061	1Hz	0 and 1	*SRT 0 Angle*	*LRT 1 Angle*
062	1Hz	2 and 3	*SRT 2 Angle*	*LRT 3 Angle*
063	1Hz	4 and 5	*SRT 4 Angle*	*LRT 5 Angle*
064	1Hz	6 and 7	*SRT 6 Angle*	*LRT 7 Angle*
065	1Hz	8 and 9	*SRT 8 Angle*	*LRT 9 Angle*

Table 7.1.20-2: Label 61-65 bit definition

BITS	DEFINITION	COMMENTS
1-8	Label	061/062/063/064/065
9-10	SDI	N/A, set to 0s
11-18	TILT ANGLE (Short Range Tilt)	Per ARINC 708A definition, Bit 11 LSB Bit 11 = 0.125 Bit 12 = 0.25 Bit 13 = 0.5 Bit 14 = 1 Bit 15 = 2 Bit 16 = 4 Bit 17 = 8 Bit 18 = -16
19-26	TILT ANGLE (Long Range Tilt)	Per ARINC 708A definition, Bit 19 LSB Bit 19 = 0.125 Bit 20 = 0.25 Bit 21 = 0.5 Bit 22 = 1 Bit 23 = 2 Bit 24 = 4 Bit 25 = 8 Bit 26 = -16
27-29	Spare	
30-31	SSM	BIT 31 30 0 0 FW 0 1 NCD 1 0 TEST 1 1 NORM

7.1.20.7 Standard Barometric Altitude (203) [2]

LABEL (Octal) 203	Units: Feet	Max. Range: ± 131,072 Feet	Approx. LSB: 1 Foot
Data Bits: 12 to 28 = 17	+ = Above Sea Level (ASL)	Sign Bit: 29	Pad Bits: 11
Transmit Interval (mSec): 1000	Data Type: 2's Complement Binary		SDI Bits: 9, 10

7.1.20.8 Corrected Barometric Altitude (204) [2]

LABEL (Octal) 204	Units: Feet	Max. Range: 131,072 Feet	Approx. LSB: 1 Foot
Data Bits: 12 to 28 = 17	+ = Above Sea Level (ASL)	Sign Bit: 29	Pad Bits: 11
Transmit Interval (mSec): 1000	Data Type: 2's Complement Binary		SDI Bits: 9, 10

7.1.20.9 Computed Airspeed (206) [2]

LABEL (Octal) 206	Units: Knots	Max. Range: 1,024 Knots	Approx. LSB: 1 Knot
Data Bits: 19 to 28 = 10	+ = Forward	Sign Bit: 29	Pad Bits: 11 to 18
Transmit Interval (mSec): 1000	Data Type: 2's Complement Binary		SDI Bits: 9, 10

7.1.20.10 True Airspeed (210) [2]

LABEL (Octal) 210	Units: Knots	Max. Range: ± 2,048 Knots	Approx. LSB: 1 Knot
Data Bits: 18 to 28 = 11	+ = Forward	Sign Bit: 29	Pad Bits: 11 to 17
Transmit Interval (mSec): 1000	Data Type: 2's Complement Binary		SDI Bits: 9, 10

[1]Not Supported prior to 965-1076-0xx-206-206
[2]Not Supported prior to 965-1076-0xx-210-210

7.1.21 Mercury GPS Output Data

These labels are only provided on the 965-xxxx-06x-xxx-xxx part numbers via the dedicated high speed ARINC 429 output on pins J2-A5/A6. They are also available (high speed) from another output of the GPS on pins J1A-22/23, however these pins are also internally connected to ARINC 429 receiver #6 in the EGPWC LRU.

ARINC 429 / 743 MESSAGE SUMMARY

LABEL	Input/ Output	Output Rate (Hz)	Trans. Delay (ms)	Description
040	Input	2-4	—	Set Altitude (not used)
041	Input	2-4	—	Set Latitude (not used)
042	Input	2-4	—	Set Longitude (not used)
076	Output	1	200	GNSS Altitude (MSL)
060	Output	1	200	Measurement Status
101	Output	1	N/A	Horizontal Dilution of Precision
102	Output	1	N/A	Vertical Dilution of Precision
103	Output	1	200	GNSS Track Angle
110	Output	1	200	GNSS Latitude
111	Output	1	200	GNSS Longitude
112	Output	1	200	GNSS Ground Speed
120	Output	1	200	GNSS Latitude fine
121	Output	1	200	GNSS Longitude fine
125	Input	5-10	—	UTC (not used)
125	Output	1	200	UTC Time
130	Output	1	200	Autonomous Horizontal Integrity Limit
133	Output	1	200	Autonomous Vertical Integrity Limit
136	Output	1	200	Vertical Figure of Merit
140	Output	1	200	UTC fine
141	Output	1	200	UTC fine fractions
150	Input	5-10	—	UTC (not used)
150	Output	1	200	UTC
165	Output	1	200	Vertical Velocity
166	Output	1	200	North / South Velocity
174	Output	1	200	East / West Velocity
203	Input	16 – 30.2	—	Altitude (not used)
204	Input	16 – 30.2	—	Barometrically Corrected Altitude (not used)
247	Output	1	200	Horizontal Figure of Merit
260	Input	5 – 10, 1-2	—	Date (not used)
260	Output	1	200	Date
273	Output	1	N/A	GNSS Sensor Status
310	Input	5 – 10	—	Latitude (not used)
311	Input	5 – 10	—	Longitude (not used)
355	Output	1	N/A	GNSS Fault Summary
361	Input	25-50	—	Inertial Altitude (not used)
370	Output	1	200	GNSS Altitude (above ellipsoid)
377	Output	1	N/A	Equipment ID

7.1.21.1 Label 076 GNSS Altitude (MSL)

Format: BNR, Transmit Rate: 1 Hz
Description: This label contains the altitude as determined by the GNSS. The altitude is in feet and referenced to mean sea level.

Bits	Description	Range	Units	Notes
1-8	0076 –Label ID			
9-28	Altitude	0 -131072	feet	1, 2
29	sign bit		0 – above MSL 1 – below MSL	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:
1. Note that it is necessary to remove the SDI bits from this label to provide sufficient precision.
2. The altitude value is represented by 20 bits meaning that the LSB has a value of 0.125 feet. The MSB is in bit 28.

7.1.21.2 Label 101 Horizontal Dilution of Precision

Format: BNR, Transmit Rate: 1 Hz
Description: This label contains HDOP computed by the GNSS for this solution.

Bits	Description	Range	Units	Notes
1-8	0101 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-13	spare	Always 0		
14-28	HDOP	0-1024	N/A	1
29	sign bit	Always 0		
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:
1. The HDOP value is represented by 15 bits meaning that the LSB has a value of 0.031. The MSB is in bit 28.

7.1.21.3 Label 102 Vertical Dilution of Precision

Format: BNR, Transmit Rate: 1 Hz
Description: This label contains VDOP computed by the GNSS for this solution.

Bits	Description	Range	Units	Notes
1-8	0102 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-13	spare	Always 0		
14-28	VDOP	0-1024	N/A	1
29	sign bit	Always 0		
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes: 1. The VDOP value is represented by 15 bits meaning that the LSB has a value of 0.031. The MSB is in bit 28.

7.1.21.4 Label 103 GNSS Track Angle

Format: BNR, Transmit Rate: 1 Hz

Description: This label contains the current ground track computed by the GNSS for this solution. Ground track is referenced to true north.

Bits	Description	Range	Units	Notes
1-8	0103 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-13	spare	Always 0		
14-28	Ground Track	±180	Degrees	1
29	sign bit		0 – Clockwise 1 – Counter-clockwise	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. The track angle value is represented by 15 bits. This means that the LSB has a value of 0.0055. The MSB is in bit 28.

7.1.21.5 Label 110 GNSS Latitude

Format: BNR, Transmit Rate: 1 Hz

Description: This label contains the current latitude computed by the GNSS for this solution. Latitude and longitude are referenced to the WGS-84 ellipsoid.

The data from this label can be used alone or it can be combined with the data in label 0120 for a total precision of 8.28×10^{-8} degrees.

Bits	Description	Range	Units	Notes
1-8	0110 –Label ID			
9-28	Latitude	±180	Degrees	1, 2
29	sign bit		0 – North 1 – South	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. Note that it is necessary to remove the SDI bits from this label to provide sufficient precision.
2. The longitude value is represented by 20 bits. This means that the LSB has a value of 171.7×10^{-6}. The MSB is in bit 28.

7.1.21.6 Label 111 GNSS Longitude

Format: BNR, Transmit Rate: 1 Hz

Description: This label contains the current longitude computed by the GNSS for this solution. Latitude and longitude are referenced to the WGS-84 ellipsoid.

The data from this label can be used alone or it can be combined with the data in label 0121 for a total precision of 8.28×10^{-8} degrees.

Bits	Description	Range	Units	Notes
1-8	0111 –Label ID			
9-28	longitude	±180	Degrees	1, 2
29	sign bit		0 – East 1 – West	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. Note that it is necessary to remove the SDI bits from this label to provide sufficient precision.
2. The longitude value is represented by 20 bits. This means that the LSB has a value of 171.7×10^{-6}. The MSB is in bit 28.

7.1.21.7 Label 112 GNSS Ground Speed

Format: BNR, Transmit Rate: 1 Hz

Description: This label contains the current ground speed computed by the GNSS for this solution. Latitude and longitude are referenced to the WGS-84 ellipsoid.

Bits	Description	Range	Units	Notes
1-8	0112 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-13	spare	Always 0		
14-28	ground speed	0-4096	knots	1
29	sign bit	Always 0	0 – Positive	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. The ground speed value is represented by 15 bits. This means that the LSB has a value of 0.125. The MSB is in bit 28.

7.1.21.8 Label 120 GNSS Latitude fine

Format: BNR, Transmit Rate: 1 Hz

Description: This label contains the least significant bits of the latitude computed by the GNSS for this solution. These bits are combined with the data in label 0110 to form a 31-bit angle with a resolution of 8.38×10^{-8} degrees (about 0.4 inches).

Bits	Description	Range	Units	Notes
1-8	0120 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-17	spare	Always 0		
18-28	Least significant bits of the latitude	$180 / 2^{20}$	$180 / 2^{20}$ degrees	1, 2
29	sign bit		0 – North 1 – South	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. The LSB portion of the latitude is represented by 11 bits. This means that the LSB has a value of 8.38×10^{-8}. The MSB of this data is in bit 28.
2. The sign bit will match that used in label 0110 and can generally be ignored.

7.1.21.9 Label 121 GNSS Longitude fine

Format: BNR, Transmit Rate: 1 Hz

Description: This label contains the least significant bits of the longitude computed by the GNSS for this solution. These bits are combined with the data in label 0111 to form a 31-bit angle with a resolution of 8.38×10^{-8} degrees (about 0.4 inches).

Bits	Description	Range	Units	Notes
1-8	0121 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-17	spare	Always 0		
18-28	Least significant bits of the latitude	$180 / 2^{20}$	$180 / 2^{20}$ degrees	1, 2
29	sign bit		0 – East 1 – West	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. The LSB portion of the longitude is represented by 11 bits. This means that the LSB has a value of 8.38×10^{-8}. The MSB of this data is in bit 28.
2. The sign bit will match that used in label 0111 and can generally be ignored.

7.1.21.10 Label 125 UTC Time

Format: BCD, Transmit Rate: 1 Hz

Description: This label contains the current UTC time.

When received as input during acquisition, the GNSS will use this time estimate to shorten the initial acquisition cycle. It is ignored when the system is in steady state navigation.

This label is output by the GNSS with the best estimate of the current time. Note that until the receiver achieves steady-state navigation, the SSM will be set to 01 (No computed data). The data portion of the message will reflect the estimated time, however.

Bits	Description	Range	Units	Notes
1-8	0125 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-14	tenths of a minute	0-9	$^{1}/_{10}$ minutes	
15-18	minutes	0-9	1 minute	
19-22	tens of minutes	0-6	10 minutes	
23-26	hours	0-9	1 hour	
27-29	tens of hours	0-2	10 hours	
30-31	Sign Status Matrix Bits		00 – Normal operation 01 – No computed data 10 – Functional test 11 – Not used	
32	Odd Parity Bit			

Notes:
None

7.1.21.11 Label 130 Autonomous Horizontal Integrity Limit

Format: BNR, Transmit Rate: 1 Hz

Description: This label contains the current Horizontal Integrity Limit (HIL) computed by the GNSS.

Bits	Description	Range	Units	Notes
1-8	0130 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11	RAIM failure	0-1	0 – No Failure detected 1 – Failure detected	1
12-28	horizontal integrity limit	0-16	nautical miles	2
29	sign bit	Always 0	0 – positive	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:
1. The RAIM failure bit is set whenever the GNSS has determined that a satellite has failed and the particular satellite cannot be isolated and removed from the navigation solution.
2. The HIL is represented by 17 bits. This means that the LSB has a value of 122.1×10^{-6}. The MSB of this data is in bit 28.

7.1.21.12 Label 133 Autonomous Vertical Integrity Limit

Format: BNR, Transmit Rate: 1 Hz

Description: This label contains the current Vertical Integrity Limit (VIL) computed by the GNSS.

Bits	Description	Range	Units	Notes
1-8	0133 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-28	vertical integrity limit	0-32768	feet	1
29	sign bit	Always 0	0 – positive	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. The VIL is represented by 18 bits. This means that the LSB has a value of 0.125. The MSB of this data is in bit 28.

7.1.21.13 Label 136 Vertical Figure of Merit

Format: BNR, Transmit Rate: 1 Hz

Description: This label contains the current vertical figure-of-merit computed by the GNSS.

Bits	Description	Range	Units	Notes
1-8	0136 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-28	vertical figure of merit	0-32768	feet	1
29	sign bit	Always 0	0 – positive	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. The VFOM is represented by 18 bits. This means that the LSB has a value of 0.125. The MSB of this data is in bit 28.

7.1.21.14 Label 140 UTC fine

Format: BNR, Transmit Rate: 1 Hz

Description: This label is used to refine the UTC time output in label 0150 to a precision of 953.7 ns. This label contains the most significant portion of the fractional seconds.

Bits	Description	Range	Units	Notes
1-8	0140 –Label ID			
9-28	Fractions of a second	0-1	seconds	1, 2
29	sign bit	Always 0	0 – positive	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. Note that it is necessary to remove the SDI bits from this label to provide sufficient precision.
2. The Fractions of a second are represented by 20 bits. This means that the LSB has a value of 953.7×10^{-9}. The MSB of this data is in bit 28.

7.1.21.15 Label 141 UTC fine fractions

Format: BNR, Transmit Rate: 1 Hz

Description: This label is used to further refine the UTC time output in label 0150 and 140 to a precision of 931.3 ps. This label contains the least significant portion of the fractional seconds. Although the precision of this label is on the order of nanoseconds, the time accuracy is on the order of whole seconds.

Bits	Description	Range	Units	Notes
1-8	0141 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-19	spare			
19-28	Fine fractions of a second	$0 - 1/2^{20}$	$1/2^{20}$ seconds	1
29	sign bit	Always 0	0 – positive	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. The Fine fractions of a second are represented by 10 bits. This means that the LSB has a value of 931.3×10^{-12}. The MSB of this data is in bit 28.

7.1.21.16 Label 150 UTC

Format: BCD, Transmit Rate: 1 Hz

Description: This label contains the current UTC time.

When received as input during acquisition, the GNSS will use this time estimate to shorten the initial acquisition cycle. It is ignored when the system is in steady state navigation.

This label is output by the GNSS with the best estimate of the current time. Note that until the receiver achieves steady-state navigation, the SSM will be set to 01 (No computed data). The data portion of the message will reflect the estimated time, however.

Bits	Description	Range	Units	Notes
1-8	0150 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11	Precision Time	X on input 1 on output		1
12-17	seconds	0-60	seconds	
18-23	minutes	0-60	minutes	
24-28	hours	0-9	hours	
29	Spare	X on input 0 on output		2
30-31	Sign Status Matrix Bits		00 – Fail warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. The GNSS will ignore this bit on input. This value will be set to 1 on output.
2. The GNSS will ignore this bit on input. This value will be set to 0 on output.

7.1.21.17 Label 165 Vertical Velocity

Format: BNR, Transmit Rate: 1 Hz

Description: This label contains the current vertical velocity computed by the GNSS.

Bits	Description	Range	Units	Notes
1-8	0165 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-13	spare			
14-28	vertical velocity	0-32768	feet per minute	1
29	sign bit	0-1	0 – up 1 – down	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. The vertical velocity is represented by 15 bits. This means that the LSB has a value of 1. The MSB of this data is in bit 28.

7.1.21.18 Label 166 North / South Velocity

Format: BNR, Transmit Rate: 1 Hz

Description: This label contains the current North/South component of the horizontal velocity computed by the GNSS.

Bits	Description	Range	Units	Notes
1-8	0166 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-13	spare			
14-28	North/South velocity	0-4096	knots	1
29	sign bit	0-1	0 – North 1 – South	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. The north/south velocity is represented by 15 bits. This means that the LSB has a value of 0.125. The MSB of this data is in bit 28.

7.1.21.19 Label 174 East / West Velocity

Format: BNR, Transmit Rate: 1 Hz

Description: This label contains the current East/West component of the horizontal velocity computed by the GNSS.

Bits	Description	Range	Units	Notes
1-8	0174 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-13	spare			
14-28	East/West velocity	0-4096	knots	1
29	sign bit	0-1	0 – East 1 – West	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. The east/west velocity is represented by 15 bits. This means that the LSB has a value of 0.125. The MSB of this data is in bit 28.

7.1.21.20 Label 247 Horizontal Figure of Merit

Format: BNR, Transmit Rate: 1 Hz

Description: This label contains the current horizontal figure-of-merit computed by the GNSS.

Bits	Description	Range	Units	Notes
1-8	0247 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-28	horizontal figure of merit	0-16	nautical miles	1
29	sign bit	Always 0	0 – positive	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. The HFOM is represented by 18 bits. This means that the LSB has a value of 61.04×10^{-6}. The MSB of this data is in bit 28.

7.1.21.21 Label 260 Date

Format: BCD, Transmit Rate: 1 Hz

Description: This label contains the current UTC date.

When received as input during acquisition, the GNSS will use this time estimate to shorten the initial acquisition cycle. It is ignored when the system is in steady state navigation.

This label is output by the GNSS with the best estimate of the current date. Note that until the receiver achieves steady-state navigation, the SSM will be set to 01 (No computed data). The data portion of the message will reflect the estimated date, however.

The year is represented by only the last two digits. It is the responsibility of the host to determine the correct century.

Bits	Description	Range	Units	Notes
1-8	0260 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-14	years	0-9	1 year	
15-18	tens of years	0-9	10 years	
19-22	months	0-9	1 month	
23	tens of months	0-1	10 months	
24-27	days	0-9	1 day	
28-29	tens of days	0-3	10 days	
30-31	Sign Status Matrix Bits		00 – Normal operation 01 – No computed data 10 – Functional test 11 – Not used	
32	Odd Parity Bit			

Notes:

None.

7.1.21.22 Label 273 GNSS Sensor Status

Format: DISC, Transmit Rate: 1 Hz

Description: This label contains the current horizontal figure-of-merit computed by the GNSS.

Bits	Description	Range	Units	Notes
1-8	0273 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11	MSB of Visible Satellite Count	0-1	16 satellites	1
12	FMS/Digital Air Data Present	0 = present		
13	spare	Always 0		
14	FMS/ IRS present	0 = present		
15	spare	Always 0		
16-19	Number of Visible Satellites	0-15	satellites	1
20-23	Number of Satellites used in the position solution	0-15	satellites	2
24-28	GNSS Operational mode			3
29	MSB of Tracked Satellite Count	0-1	16 satellites	2
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. Bits 11 and 16-19 are used together to form a 5-bit count of the number of visible satellites. Bit 11 is the MSB and is prepended to bits 16-19 to form a UINT 5.
2. Bits 29 and 20-23 are used together to form a 5-bit count of the number of satellite measurements that are included in the navigation solution. Bit 29 is the MSB and is prepended to bits 20-23 to from a UINT 5.
3. The GNSS operational mode describes a number of operational characteristics of the GNSS. It may take on one of the following values.
   - 0x00 Selftest – The GNSS is in this mode whenever the receiver is commanded to perform BIT via PIO 0 or PIO 1. When this mode is selected, the GNSS will not output valid position data.
   - 0x04 Reserved
   - 0x08 Acquistion – The GNSS is in this mode when it is attempting to lock onto satellites or when it is able to make measurements but has not yet converged on a position solution (e.g. during ephemeris collection).
   - 0x0c Navigation – The GNSS is in this mode when the navigation solution and integrity can be computed without using altitude.
   - 0x0d Reserved
   - 0x0e Reserved
   - 0x10 Altitude Aiding – The GNSS is in this mode when the navigation solution or integrity computations require the used of altitude. Note that this behavior is different from that defined by Canadian Marconi. The CMC receiver will only indicate altitude aiding when altitude is required for a navigation solution.
   - 0x14 Reserved
   - 0x15 Reserved
   - 0x16 Reserved
   - 0x18 Dead-Reckoning – The GNSS is in this mode when there are insufficient valid range measurements available to compute the navigation solution. In this mode, the GNSS will project the position along the last known path for up to 30 seconds. After that, the GNSS will transition to acquisition mode.
   - 0x1f Fault – The GNSS is in this mode when the BIT functions detect an non-recoverable error. This mode corresponds to the state of the FAULT discrete output.

7.1.21.23 Label 355 GNSS Fault Summary

Format: DSC, Transmit Rate: 1 Hz

Description: This label contains information on the status of the GNSS and the various ARINC IN interfaces.

Bits	Description	Range	Units	Notes
1-8	0355 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-17	spare	Always 0		
18	ARINC IN 7 Activity	Always 1	1 – No connection	
19	ARINC IN 6 Activity	Always 1	1 – No connection	
20	ARINC IN 5 Activity	Always 1	1 – No connection	
21	ARINC IN 4 Activity	Always 1	1 – No connection	
22	ARINC IN 3 Activity	Always 1	1 – No connection	
23	ARINC IN 2 Activity	Always 1	1 – No connection	
24	ARINC IN 1 Activity	Always 1	1 – No connection	
25	GNSS failure	0-1	0 – Normal operation 1 – GNSS failure	1
26	GNSS RF Interface failure	0-1	0 – Normal operation 1 – RF has failed	2
27	GNSS Sensor Unit failure	0-1	0 – Normal operation 1 – Sensor has failed	3
28	BITE Test Inhibited	Always 0	0 – Test is allowed 1 – Test is inhibited	4
29	spare	0		
30-31	Sign Status Matrix Bits		00 – Normal operation 01 – No computed data 10 – Functional test 11 – Failure warning	
32	Odd Parity Bit			

Notes:

1. The GNSS failure bit indicates a generalized failure that cannot be isolated to either the sensor or the antenna.
2. The GNSS RF Interface failure bit indicates a failure that has been isolated to the GNSS antenna or cabling.
3. The GNSS Sensor Unit failure bit indicates a failure that has been isolated to the GNSS card.
4. The BITE Test Inhibited bit is always set to zero to indicate that internal self-test is always active in the GNSS.

7.1.21.24 Label 370 GNSS Altitude (above ellipsoid)

Format: BNR, Transmit Rate: 1 Hz

Description: This label contains the current altitude computed by the GNSS. This label differs from 076 in that it is referenced to the WGS-84 ellipsoid rather than MSL.

Bits	Description	Range	Units	Notes
1-8	0370 –Label ID			
9-28	altitude	0-131072	feet	1, 2
29	sign bit	0-1	0 – up 1 – down	
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

1. Note that it is necessary to remove the SDI bits from this label to provide sufficient precision.
2. The altitude is represented by 20 bits. This means that the LSB has a value of 0.125. The MSB of this data is in bit 28.

7.1.21.25 Label 377 Equipment ID

Format: BCD, Transmit Rate: 1 Hz

Description: This label contains the equipment identifier that indicates what type of equipment the GNSS is to the host. The content of this label does not change. The GNSS will identify itself as an EGPWS system using the ID 0x023.

Bits	Description	Range	Units	Notes
1-8	0377 –Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11-14	0x3 – least significant digit of ID	0x3		
15-18	0x2 – middle digit of ID	0x2		
19-22	0x0 – most significant digit of ID	0x0		
23-29	spare	0x0		
30-31	Sign Status Matrix Bits		00 – Failure warning 01 – No computed data 10 – Functional test 11 – Normal operation	
32	Odd Parity Bit			

Notes:

None

7.1.21.26 Label 060 Measurement Status

Bits	Description	Range	Units	Notes
1-8	0060 – Label ID			
9-10	SDI bits		Bit 9 = 1 Bit 10 = 0	
11	System	Always 0	0 – GPS 1 – GLONASS	1
12-17	C/N_0	0-63	$^{dB}/_{Hz}$	
18	Satellite position data used	Always 1	0 – Almanac data 1 – Ephemeris data	
19	User Clock Update	Always 0	0 – No clock update 1 – Clock update	
20	Code used	Always 0	0 – C/A code 1 – P code	
21	Rate measurement type	Always 0	0 – Doppler range rate 1 – Delta-range rate	2
22	Range rate status	Always 0	0 – Invalid 1 – Valid	
23	Measurement status / Isolation	0 – 1	0 – Invalid/Isolated 1 – Valid	3
24-29	SVID or PRN number	0 – 63	None	
30-31	Sign Status Matrix Bits		00 – Normal Operation 01 – No computed data 10 – Functional test 11 – Not Used	

Notes:

3. Bit 11 is set to "0" to indicate that the measurement was made to a GPS satellite. To indicate a WAAS satellite, the WAAS PRN codes 120-138 will be mapped to PRN 38-56.
4. Different GPS receivers can measure the relative velocity between the GNSS and a satellite in one of two ways. It can measure the Doppler frequency offset of the signal due to relative motion. Alternatively, a GNSS can use delta range measurements. The Mercury sensors measure Doppler offset.
5. When the GNSS determines that this measurement is inconsistent with other measurements, it will set this bit to zero. This bit is also set to zero when the satellite is assigned to a GPS channel but has not yet been acquired.

NOTE: There are no sections 7.1.22 through 7.1.96.

7.1.97 Runway Data for FedEx HUD

This output label is not supported prior to -224-224.

Information about the RAAS selected runway is transmitted over ARINC 429 using label 041 once every second. The runway data is encoded as shown below.

Label 041 definition

Bits	DEFINITION	NOTES
8-1	Label	041 sent at 1 Hz
16-9	Runway ID	See Runway ID Definition below Also see NOTE 3
23-17	Distance to end of Runway	LSB = 100 ft Also see NOTE 1
24	Units	0 = Feet, 1 = Meters Also see NOTE 4
31-25	Length of Runway	LSB = 200 ft Also see NOTE 2
32	Parity	Set to Odd

NOTE 1: Range of "Distance to end of Runway" with units of feet is 0…12,700 feet. If distance is greater than range, it will be set to maximum value. If distance is less than range, it will be set to the minimum value.

NOTE 2: Range of "Length of Runway" with units of feet is 0…25,400 feet. Note that only one runway does not fit in this range.

NOTE 3: In place of SSMs, data bits 17-23, and 25-31 will be ZERO if data invalid.

NOTE 4: Provided so user knows what units the RAAS voice advisories are based on. Does not affect the data sent in the other fields of this label (they are always in feet).

Runway ID definition

Runway Number = Runway ID modulo 40;

Runway ID / 40	Runway Designator
0	none
1	LEFT
2	RIGHT
3	CENTER
4	TRUE

In the above table, column 1 is the multiplying factor for the corresponding Runway Designator in Column 2.
The Runway ID value sent is equal to 40*multiplying factor + Runway Number.

For example:
Runway 12R would be indicated by a value of 92 (01011100), since 40*2 + 12 = 92
Runway 12L would be 52 (00110100), since 40*1 + 12 = 52

Working this in reverse, if the user saw a value of 92, they would take the integer portion derived from dividing 92 by 40 (which is 2), and find that the designator is 'Right'. Then they would take the remainder after subtracting this multiple of 40 from 92 (2*40, in this case = 80) from 92. Since 92 -80 = 12, the Runway ID is 12.

7.1.98 VSD Terrain Data

This output label is not supported prior to -226-226.

Separate terrain profiles are computed for the Captain's and 1st Officer's displays. The EGPWC outputs labels 010 and 017 on the first EPGWC ARINC 429 output bus. The word structure is specified below.

A linear array of terrain data is transmitted over an ARINC 429 bus via a block transfer protocol using Label 010 for the Captain's side and 017 for the First Officer's side. This protocol is used to transfer a block of data via a packet protocol. Up to 256 packets are allowed per block. A 20-bit per word protocol is used to encode the data for this application.

1. Each profile is sent using up to 126 transmissions of Label 010 for the Captain's side and Label 017 for the First Officer's side.
2. Word types are identified by the SSM bits.
3. The Segment Descriptor Words define range, scaling, validity and color boundary information of Segment Data Words.
4. The Segment Data Words encode the altitude data for each VSD segment or vector.
5. Each profile block contains an initial word**,** four (4) descriptor words, 24 to 120 segment words, and a final word.
6. The final word contains a 16 bit checksum on data words. The checksum is computed by adding the lower 16 bits with the upper 16 bits of the 32-bit sum of all data labels (excluding parity bit).

Profile Block

Word #	Description	Contents
1	Initial Word	Word Count, Data word format
2	Descriptor Word #1	Profile Type, Range, Function Validity
3	Descriptor Word #2	Red - Yellow Boundary, Number segments
4	Descriptor Word #3	Yellow - Green Boundary, Segments in Range
5	Descriptor Word #4	RNP, Look-Aside Angle
6	Segment Word #1	First segment altitude, type and threat level
7	Segment Word #2	Second segment altitude, type and threat level
…	…	…
N-1	Segment Word #M	Last segment altitude, type and threat level
N	Final Word	Checksum

Initial Word (Start of Block)

The first word in the block is an Initial Word. The last word will be the Final Word.

Byte	Linear Bits	Definition	Notes
1:7-0	8-1	Label	010 / 017
2:7-0	16-9	Data Words in Packet (Does not include initial and final words)	0 to 255
3:7-0	24-17	Packet Number (not used)	0 to 255
4:4-0	29-25	Data Word Width	1D (20 bit w/Final Word)
4:6-5	31-30	SSM	01 (Initial Word)
4:7	32	Parity	odd

First Descriptor Word

Byte	Linear Bits	Definition	Notes
1:7-0	8-1	Label	010 / 017
2:3-0	12-9	Words in Descriptor	4 = 4 Descriptor Words
2:7-4	16-13	Type of Profile	0 – Open-loop 1 – Tactical (Future) 2 – Strategic (Future) 14 - Self Test 15 - Not Available
3:7-0, 4:2-0	27-17	Range	ULSB = 0.5 nm
4:3	28	Descriptor / Segment Flag	1 = Descriptor
4:4	29	Tick	0 = Even
4:6-5	31-30	SSM	11 = Intermediate Word
4:7	32	Parity	odd

ULSB = Unsigned Least Significant Bit

Second Descriptor Word

Byte	Linear Bits	Definition	Notes
1:7-0	8-1	Label	010 / 017
2:7-0, 3:3-0	20-9	Altitude for Red-Yellow Boundary	SLSB = 25 ft
3:7-4, 4:2-0	27-21	Number of Segments	1 to 127; 0 = No Data
4:3	28	Descriptor / Segment Flag	1 = Descriptor
4:4	29	Tick	1 = Odd
4:6-5	31-30	SSM	11 = Intermediate Word
4:7	32	Parity	odd

SLSB = Signed Least Significant Bit

Third Descriptor Word

Byte	Linear Bits	Definition	Notes
1:7-0	8-1	Label	010 / 017
2:7-0, 3:3-0	20-9	Alt for Yellow-Green Boundary	SLSB = 25 ft
3:7-4, 4:2-0	27-21	Segments in Range	1 to 127; 0 = No Data
4:3	28	Descriptor / Segment Flag	1 = Descriptor
4:4	29	Tick	0 = Even
4:6-5	31-30	SSM	11 = Intermediate Word
4:7	32	Parity	odd

Fourth Descriptor Word

Byte	Linear Bits	Definition	Notes
1:7-0	8-1	Label	010 / 017
2:7-0	16-9	One half Swath Width	ULSB = 0.02 nm
3:7-0, 4:2-0	27-17	Look-Aside Angle	SLSB = 90/128 deg
4:3	28	Descriptor / Segment Flag	1 = Descriptor
4:4	29	Tick	1 = Odd
4:6-5	31-30	SSM	11 = Intermediate Word
4:7	32	Parity	odd

Segment Data Words

Byte	Linear Bits	Definition	Notes
1:7-0	8-1	Label	010 / 017
2:1-0	10-9	Type	0 - Water 1 - Terrain 2 - Obstacle
2:3-2	12-11	Threat Level	0 - No Threat 1 - Caution 2 - Warning
2:7-4, 3:7-0	24-13	Altitude	SLSB = 25 MSL
4:2-0	27-25	Spare	
4:3	28	Descriptor / Segment Flag	0 = Segment
4:4	29	Tick	0 = Even, 1 = Odd
4:6-5	31-30	SSM	11 = Intermediate Word
4:7	32	Parity	odd

Final Word (End of Block)

Byte	Linear Bits	Definition	Notes
1:7-0	8-1	Label	010 / 017
2, 3	24-9	16 bit checksum	0x0000 indicates no checksum
4:4-0	29-25	Number of Bits in Last Data Word	1…21
4:6-5	31-30	SSM	10 – Final Word
4:7	32	Parity	odd

7.2 Audio Output

Mode computation outputs generally result in an audio voice warning unless inputs are invalid or one of the audio suppression discretes is active. The actual output message, or intended message during audio suppression, is sent to the warning lamp logic for proper output activation.

The audio outputs consist of an 8 ohm amplifier and a transformer isolated 600 ohm output. Additional automatic volume

control lowers both outputs a fixed 6 dB below the nominal level on command. Volume level is also aircraft dependent. Refer to sections 4.2.17 and 5.2.9 for information on volume levels.

Several sets of voice warning messages are defined. Each set is selected by the Audio Options in 5.2.13. See 5.2.13 for specific audio menu set definitions.

7.3 Discrete Outputs

Outputs from the various alert/warning mode computations are first processed to determine which lamp outputs to produce. This information is combined with the aircraft type lamp format to produce the output lamp logic. The selection and use of discrete outputs is defined in section 5.2.14.

All of the lamp outputs are driven by solid state switches to ground. These outputs can also be used as discrete drivers for other devices.

All alert/warning lamp outputs are normally a steady state switch to ground. The lamps can be individually programmed to flash as a function of aircraft type only. The flashing outputs operate at a nominal 70 cycles per minute at a 50% duty cycle.

7.3.1 Ground Proximity Warning/Alert Discrete (Lamp) Outputs

Two Lamp formats are defined as a function of aircraft type. The lamp format defined for each aircraft type can be found in the tables 5.2.14 and Product Specification 6.9.3.1. For Format type 1 configurations, only Mode 5 “Glideslope” message will activate the alert lamp output (amber). All other messages (except Windshear) will activate the warning lamp output (red). Note that Mode 6 does not activate any lamp outputs, only voices.

In the other configuration (format 2), only the messages containing the phrase “Pull Up” will activate the warning lamp output (red). All other messages (except Windshear) will activate the alert lamp output (amber).

Note: For some installations Terrain Awareness Caution/Warning or Obstacle Awareness Caution/Warning will activate the GPWS Alert/Warning lamp(s), refer to section 5.2.14.

The Glideslope Cancel Discrete controls the output of the Mode 5 “Glideslope” message. If the Glideslope Cancel Discrete is activated then the alert lamp (amber) and the voice annunciation will be inhibited for the Mode 5 “Glideslope” message.

7.3.2 Windshear Discrete (Lamp) Outputs

The Mode 7 Windshear detection warning and caution functions activate separate lamp outputs. Priority logic, described in Product Specification section 6.5, prevents Windshear caution during a Windshear warning condition and provides an inhibit which turns off the EGPWS alert and warning lamps.

7.3.3 Audio On Discrete

The Audio On discrete goes true whenever any voice message is being enunciated. It will stay true until the voice is completed. This output can be used to inhibit other audio systems (e.g., TCAS) during GPWS warnings. In addition it can be used to drive the audio key line input provided on some aircraft audio systems.

7.3.4 Terrain / Obstacle Awareness Alert Discretes

NOTE: <u>Obstacle alerting provisions implemented in the 965-1076-XXX-204-204 part number.</u>

Terrain Awareness provides 2 discrete alert outputs, one for Terrain and Obstacle Cautions and one for Terrain and Obstacle Warnings. These outputs can drive cockpit lamps or act as discrete inputs to an EFIS.

7.3.4.1 Terrain / Obstacle Caution Discrete

Terrain/Obstacle Caution can be configured to activate any of the discrete outputs. Depending on configuration, the caution will typically active either the GPWS Warn Lamp, or the GPWS Alert Lamp, or will drive its own lamp output.

7.3.4.2 Terrain / Obstacle Warning Discrete

Terrain/Obstacle Warning can be configured to activate any of the discrete outputs. Depending on configuration, the warning will typically active either the GPWS Warn Lamp or will drive its own lamp output.

7.3.5 Monitor Discretes (GPWS, Windshear, Terrain INOP & Terrain Not Available)

The EGPWC produces three discrete monitor outputs. These discretes can be programmed, via aircraft configuration, to reflect any one or any combination of the following functions, GPWS INOP, Windshear INOP, Terrain INOP, and Terrain Not Available. All three of these discretes activate with loss of EGPWC power. The status of these three discretes is also contained on an ARINC 429 output word.

Note: Some display systems provide one message area for both warning and associated INOP annunciation. There are conditions where GPW INOP and a GPWS warning can exist at the same time (e.g., Sinkrate warning can occur even if a Computed Airspeed input fault exists.) For these installation a configuration item *INOP & Warning Annunciation in Same Window* is provided which causes the INOP annunciation to extinguish whenever a valid warning annunciation is required.

7.3.6 Terrain Display Switching Discretes (Wx/EGPWC Display Select)

The EGPWC produces two discrete outputs for controlling the terrain display. They can be used either to control picture bus switching relay(s) or connected directly to the symbol generators. Refer to section 5.2.14.

7.3.7 Terrain Displayable Discretes

These discretes are for use only with EFIS displays that provide a Display Mode input to the EGPWS via the Terrain Display selection in section 5.2.7. For those installations, the EGPWC produces two 'Terrain Displayable' discrete outputs for controlling the display of the Terrain Mode annunciation lights. One discrete is used for the Captain's terrain display mode annunciation and one for the F.O.'s terrain display mode annunciation. For each pilot's side, if the EFIS is in a mode which will support Terrain display and the Terrain display function is valid, then the discrete will be set active and the Terrain Mode annunciation light is illuminated.

7.3.8 Displayable Discretes

These discretes are for use with EFIS displays only where the 'four-button' display selection scheme is selected. Currently there are no Mark VII configurations that provide this type of selection method (see Mark V EGPWS aircraft type 217 for an example). For those installations, the EGPWC produces two 'Displayable' discrete outputs for controlling display mode annunciation lights. One discrete is used for the Captain's display mode annunciation and one for the F.O.'s display mode annunciation. Each output is routed through the picture bus switching relay to drive either TERR mode annunciation if terrain is displayed, or WXR mode annunciation if the WXR R/T is on (displayed or not).

7.3.9 Accelerometer Self Test Control Output Discrete

For some installations, the EGPWC produces a BIAX Accelerometer Self-Test Control Output discrete to initiate a self-test of the connected Honeywell BIAX Accelerometer. This output will only be activated during Level 1 Self-Test on the ground and during the power up sequence. See section 4.2.19 for a description of the signal characteristics.

7.3.10 PWS Inhibit Discrete

NOTE: This feature was incorporated in the 965-1076-XXX-206-206 part number.

For some installations a dedicated discrete output is provided to inhibit Predictive Windshear (PWS) Audio. By using the PWS Alert Level and PWS audio activity (both are transmitted on the PWS Hazard bus), the EGPWS prioritizes its audio with that of the PWS by activating this discrete whenever the EGPWS audio out prioritizes the PWS audio. For reference, the tables of 5.2.13 show the relative audio priorities.

7.3.11 TCAS Inhibit Discrete

NOTE: This feature was incorporated in the 965-1076-XXX-206-206 part number.

For some installations, a dedicated discrete output is provided to inhibit TCAS resolution advisories. This output is activated whenever the EGPWS is in a Warning or Alert state. It is not activated during Altitude Awareness callouts.

7.3.12 PLI Select #1 and #2

NOTE: This feature was incorporated in the 965-1076-XXX-206-206 part number.

For some installations, dedicated discrete outputs are provided for controlling the PLI select relays. These relays are used to switch the source for the ADI PLIs. The discretes are activated when a W/S Warning occurs and are de-activated when the corresponding PLI select switch is pressed.

7.3.13 Glideslope Manually Canceled Discrete

The Glideslope Canceled discrete output is active whenever the Glideslope Cancel has been selected.

7.3.14 Tactical Mode Discrete

NOTE: This feature was incorporated in the 965-1076-XXX-208-208 part number.

The Tactical Mode discrete output is active whenever the Tactical Mode has been selected in Military type aircraft only.

7.3.15 Flap Override Discrete

NOTE: This feature was incorporated in the 965-1076-XXX-208-208 part number.

For those aircraft configurations that use a momentary flap override select, the Flap Override discrete output is active whenever the Flap Override has been selected.

7.3.16 WXR Control Discrete

NOTE: This feature was incorporated in the 965-0976-XXX-210-210 part number.

For some installations, a dedicated discrete output is provided to control the On/Off signal to the WXR R/T. This allows the R/T to be turned off when the PPI is turned on to display terrain.

7.3.17 Pop Up Discrete

NOTE: This feature was incorporated in the 965-0976-XXX-210-210 part number.

For some installations, a dedicated discrete output is provided to tell the display system to Pop Up terrain during a caution or warning. This is typically used for those configurations where Terrain/Obstacle related discrete outputs are also activated for GPWS warnings.

7.4 System Configuration Status

The EGPWC indicates the current hardware, software, databases, program pins and input discretes detected by the system. Each configuration item has a configuration message associated with it. This message is the message that will be read out during Present Status on the RS-232 interface or voice output during Self Test Level 3 to inform the user of the current configuration. The following table lists MKVII EGPWS (965-1076-0xx-xxx-xxx) Configuration Messages associated with each Configuration Item.

TABLE 7.4-1: CONFIGURATION OPTIONS AND MESSAGES

NOTE: Any modifications to this table may affect associated Tests and/or Classes. Use the following traces for analyzing affected Tests and Classes: SRD 6.10.2.1.R70, SRD 6.10.13.3.R210, CSRD 4.2.4.R50.

Refer to Product Specification section 6.10.6.3 for additional details on configuration readout.

Selected Option/Condition	Configuration Message
Category 11 (Smart Callout Selected)	**SMART CALLOUT SELECTED**
Category 5 (EGPWS Visual Suppress)	***[3] VISUAL SUPPRESS SELECTED**
Category 12 (Audio Declutter Disable)	**AUDIO DECLUTTER DISABLED**
Category 12 (Windshear Disable)	***[6] WINDSHEAR DISABLED** ***[6] WINDSHEAR INOP DISABLED**
Category 12 (Windshear Caution Voice Disable)	**WINDSHEAR CAUTION WITH VOICE SELECTED**
Category 7 (TA&D Disable TCF Disable)	**TERRAIN CLEARANCE FLOOR DISABLED**
Category 7 (TA&D Disable TCF Disable)	**TERRAIN AWARENESS DISABLED**
Category 1(Simulator Reposition Enable)/ Category 5(Simulator Reposition Enable Reversal)	**SIMULATOR REPOSITION SELECTED**
Category 11 (Bank Angle Enable)	**BANK ANGLE SELECTED**
Category 4 (Flashing Lamps)	**FLASHING LAMPS SELECTED**
Category 10 (TA&D Alternate Pop Up)	**ALTERNATE POP UP SELECTED**
Category 17 (Peaks Enabled)	***[2] PEAKS ENABLED**
Category 17 (WGS84 Reference Selected)	***[2] GPS ALTITUDE REFERENCE WGS 84 SELECTED**
Category 10 (Flap Reversal Select)	**FLAP REVERSAL SELECTED**
Category 9 (Alternate Mode 6 Volume)	**ALTERNATE MODE 6 VOLUME SELECTED**
Category 11 (Mode 6 Volume Reduction)	**MODE 6 LOW VOLUME PROGRAM PIN SELECTED**
Category 12 (ARINC 743 GPS Selected in lieu of 743A)	***[1] ARINC 743 GPS SELECTED**
Mode 6 Volume Control Discrete Selected (CVT Item M6LwVolDsc) or Mode 6 Low Volume in the selected callout menu	**MODE 6 LOW VOLUME SELECTED**

Selected Option/Condition	Configuration Message
GND Audio Suppress(Inhibit)/All Modes Inhibit Discrete Selected OR +28 V Audio Suppress(Inhibit)/All Modes Inhibit Discrete Selected	**EXTERNAL EGPWS INHIBITED** Note: Will only occur for present status as this condition inhibits self tests
Terrain Awareness & TCF Inhibit input discrete activated	**TERRAIN AWARENESS AND TCF DISABLED**
Glideslope Inhibit input discrete activated	***[1] GLIDESLOPE INHIBITED**
Both Steep Approach #1 and #2 input discrete selected OR Digital Steep Approach activated	**STEEP APPROACH ACTIVATED**
Steep Approach #1 input discrete selected and #2 NOT selected	**STEEP APPROACH ENABLED**
Steep Approach #2 input discrete selected and #1 NOT selected	**STEEP APPROACH SELECTED**
GPWS Inhibit input discrete activated	***[3] GPWS INHIBITED** Note: Will only occur for present status as this condition inhibits self tests
IRS #1 in Attitude Mode	**IRS 1 ATTITUDE MODE SELECTED**
Category 10 (Obstacle Awareness Enabled)	***[1] OBSTACLE AWARENESS ENABLED**
Category 1 (Pitch Alert Enable)	***[4] PITCH ALERT ENABLED**
Runway Awareness Enable selected *RAAS Enable* is true (RCD Enables RAAS or RCD configures an enable discrete that is active)	***[5] RUNWAY AWARENESS ENABLED**
`[RWY_NullRCD]` is TRUE and *RAAS NVM Key* is TRUE	*[5] **RUNWAY AWARENESS ENABLE SET**

*[1] Added in –204-204. *[2] Added in –208-208. *[3] Added in –210-210. *[4] Added in –214-214.
*[5] Added in –218-218. *[6] Added in –213-213.

7.5 System Status Messages

System Status Messages provide additional information beyond Internal and External Current Faults in order to help isolate the reason for certain EGPWC INOP situations. These messages will be read out during Present Status on the RS-232 interface or voice output during Self-Test Level 2. The table below defines the System Status Messages for the EMK7.

TABLE 7.5-2: EGPWC SYSTEM STATUS MESSAGES

NOTE: Any modifications to this table may affect associated Tests and/or Classes. Use the following traces for analyzing affected Tests and Classes: SRD 6.10.6.3.R70, SRD 6.10.13.2.R80.

System Level Event	Internal Indications	System Status Message
Bank Angle INOP	BAINOP TRUE	Bank Angle INOP
Envelope Mod INOP	EMINOP Exists and set TRUE	Envelope Modulation INOP
Mode 1 INOP	M1INOP TRUE	Mode 1 INOP
Mode 2 INOP	M2INOP TRUE	Mode 2 INOP
Mode 3 INOP	M3INOP TRUE	Mode 3 INOP
Mode 4 INOP	M4INOP TRUE	Mode 4 INOP
Mode 5 INOP	M5GPWINOP TRUE	Mode 5 INOP
Mode 6 INOP	M6INOP TRUE	Mode 6 INOP
	M6INOP TRUE AND Baro Altitude Callout Menu Selected AND Landing Altitude NOT in aircraft configuration.	Mode 6 INOP - No Landing Altitude
	M6INOP TRUE AND Approaching Minimums Type Callout Menu Selected AND Decision Height Not in aircraft configuration.	Mode 6 INOP - No Decision Height Note: As of –214-214 if [Unconfigured DH] is present in the Selected RA ID then this will not occur.
TAD Deselected[1]	Latitude Invalid	Terrain Awareness – No Valid Latitude

[1] The following preconditions apply: a) The signal must not be faulted since if faulted, signal fault message will exist, b) TAD/TCF Inhibit Discrete is NOT selected, c) TAD Disable program pin is NOT selected, d) The signal condition must NOT

System Level Event	Internal Indications	System Status Message
	Longitude Invalid	Terrain Awareness - No Valid Longitude
	True Heading Invalid	Terrain Awareness - No Valid True Heading
	Corrected Altitude Invalid	Terrain Awareness - No Valid Corrected Altitude
	Inertial Vertical Speed Invalid or Barometric Altitude Rate Invalid	Terrain Awareness - No Valid Altitude Rate
	Roll Invalid	Terrain Awareness - No Valid Roll
	Predictive Windshear Invalid	Terrain Awareness - No Valid PWS
	Wx Mode 1 Invalid	Terrain Awareness - Display Mode 1 Invalid
	Wx Mode 2 Invalid	Terrain Awareness - Display Mode 2 Invalid
	Nav Mode 1 Invalid (Left Display Mode OK For Terrain Invalid)	Terrain Awareness - Display Mode 1 Invalid
	Nav Mode 2 Invalid (Right Display Mode OK For Terrain Invalid)	Terrain Awareness - Display Mode 2 Invalid
	Range 1 Invalid	Terrain Awareness - Range 1 Invalid
	Range 2 Invalid	Terrain Awareness - Range 2 Invalid
	Wx 1 Off	Terrain Awareness - Weather Radar 1 Off
	Wx 2 Off	Terrain Awareness - Weather Radar 2 Off
	Runway Distance invalid	Terrain Awareness - No Valid Runway
	Obstacle Database Invalid	Terrain Awareness: No Valid Obstacle
Terrain Awareness INOP[2]	TAINOP TRUE	Terrain Awareness INOP
Terrain Clearance Floor INOP[3]	TCFINOP TRUE (Always Created)	Terrain Clearance Floor INOP
	Position Error AND TCFINOP TRUE	Terrain Clearance Floor - Position Error
Terrain Not Available[4]	TAD Position Error AND TAINOP FALSE	Terrain Awareness - Position Error
	Outside Database TRUE	Terrain Awareness - Outside Terrain Database
Windshear INOP[5]	WSINOP TRUE	Windshear INOP
RAAS INOP	RAAS INOP TRUE	Runway Awareness INOP
RAAS Not Available	Runway Awareness Position Error is TRUE AND RAAS INOP is FALSE AND RAAS Enable is TRUE	Runway Awareness - Position Error
	Destination Runway RAAS Qualified is FALSE AND RAAS INOP is FALSE AND RAAS Enable is TRUE	Runway Awareness - No Valid Runway
Terrain Database Incompatible	Terrain Database Compatible is FALSE AND RAAS Enable is TRUE	Runway Awareness - Terrain Database Invalid

7.6 PLI Outputs

Two Pitch Limit Indicator (PLI) outputs provide continuous stall margin indication on compatible displays. Depending on the selected configuration these outputs are either disabled or provide one of the following scaling options.

7.6.1 Collins EFIS

Data Item	Value
Scaling:	200 mVDC/Degs
Polarity:	+ Volts = degrees above shaker activation
Range:	± 12 Degs
Out-of-View:	27.5 Degrees
Signal #1 Connection	(+) = J1A-6, (-) = J1B-6
Signal #2 Connection	(+) = J1A-7, (-) = J1B-6

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be masked via the configuration database and both On-Ground and In-Air masks must be taken into account, e) The associated input signal must exist for the current aircraft configuration.

[2] TAD INOP Preconditions: a) TAD/TCF Inhibit Discrete NOT selected, and b) TAD Disable program pin NOT selected.

[3] TCF INOP Preconditions: a) TCF Disable program pin NOT selected (TRUE causes TCF INOP).

[4] TAD INOP Preconditions: a) TAD/TCF Inhibit Discrete NOT selected, and b) TAD Disable program pin NOT selected.

[5] Windshear INOP Preconditions: a) A Windshear algorithm has been defined within the current aircraft configuration, and b) The Windshear Disable program pin is NOT selected.

8. Appendix C: Connector Interface

Document Revision History, Section 8

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
11/10/97 - G Ostrom	8.1	Updated table 8-1, added Pitch Limit Indicator signals	202	202
11/10/97 - A Loos	8.1 Figure 8-1	Revised wording on typical signal use and added sentence to note that Figures 8-1 and 8-2 show typical signal use. Add Pitch Limit Indicator signals to Figure 8-1 Lower Connector - J1	202	202
11/12/97 - A Loos	Table 8-1 Figure 8-1	Change J1B-9 to Terrain Displayable #1 Change J1B-10 to Terrain Displayable #2	202	202
12/18/97 - A Loos	Figure 8-1, 8-2	Corrected Shading on J2-E8, J2-E9, and J1B-33	202	202
2/6/98 – A Loos	Figure 8-1, 8-2 Table 8-1	Identify J1A-8,9,10 as the typical uncorrected fine synchro baro altitude input. Identify J2-D8,9,10 as the typical corrected fine synchro baro altitude input. Identify J2-H6,7,8 as the typical uncorrected coarse synchro baro altitude input. Identify J2-J1,2,3 as the typical corrected coarse synchro baro altitude input. Correct X/Y leg identification on J2-D8 and D9. Note: no change to actual aircraft interfaces	204	204
4/14/98 – A Loos	Table 8-1 Figure 8-1	Add 28VDC power to pins J1B-03 and J1B-04.	204	204
17-MAR-99 – A Loos	-	Revision History corrections to add name to 4/14/98 entry and other editorial corrections in Note 2. Update Figures 8-1 and 8-2 to make output pins more recognizable	-	-
11-May-99 – D. Sawich	Table 8-1	SCR 3878: Added “GPWS Inhibit Discrete” to pin J2-C15 Typical Signal Usage.		-210
27-Sep-99 – A Loos	Figures 8-1 and 8-2	SCR 3855: Clarified indentification of pins J1A-13, J1B-9 & 10, J2-F2		
26-MAY-00 – M. Henderson	All	SCR 4942: General document cleanup.	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-
11-JUN-01 – MJC	All	SCR 5222: Added the following –06x/-07x pinout details (Mercury GPS unit): ARINC Out 3A/B (dedicated GPS output) on pins J2-A5/6. ARINC Out 1A/B (GPS output used by EGPWS) on pins J1A-22/23. GPS Monitor on pin J2-F3.	-214	-214
31-JUL-01 – MJC	All	SCR 5222: Deleted GPS Monitor from pin J2-F3 and removed mention of –07x p/n.	-214	-214
06-DEC-01 – NSP	All	SCR 6053: General Cleanup		
17-JUN-02 - Gary Boyd	Figure 8-2	SCR 6808: Corrected “ACCEL TEST” format. Made “Document Revision History” standard format size.	-	-
03-SEP-03 – Gill	Table 8-1 (rev)	SCR 7637: Added RAAS Enable / Inhibit discrete functions to J1B-25 and J2-C15.	218	218
17-NOV-05 – M. Henderson	Figure 8-1	SCR 8370: In figure 8-1, change J1B-35 to A, and J1B-36 to B.	-	-
10-MAR-06 – M. Calhoun	Table 8-1 Figure 8-1	SCR 8201: Doc only change to include definition of pins J2-G12/G13 and J2-H10/H11 in the table.	-	-

8.1 Pinout for Rear Connectors sorted by pin number

In Table 8-1, the Typical Signal Usage Summary column provides information on the typical use of a given input or output. Connector Figure 8-1 and Figure 8-2 also reflect the typical signal application. ***Actual use may vary in any given installation.*** When designing a new interface the Typical Signal Usage Summary should be used as a guide for determining the interface connections. Other restrictions on signal use are:

- Analog Three Wire (Analog3Wx) can be used for both AC and DC inputs. Two wire use requires that the connection be across the A and B leg of the same channel (see J2-H01 & J2-H03, DC Angle of Attack, for an example).
- AC or DC Voltage Ratios require the inputs for the signal and reference to be on separate X and Y A/D Converter Banks (see J1B-37 through J1B-40, AC Barorate #1 for an example). Restated, the input signal and reference for AC or DC Voltage Ratios can not be on the same A/D Converter Bank.
- Discrete Inputs can not be connected to analog channels.

TABLE 8-1: PIN ASSIGNMENT FOR REAR CONNECTORS SORTED BY PIN NUMBER

Connector	Pin	Signal Type	Channel Designation Reference[1]	Typical Signal Usage Summary[2]
Lower	J1A-01	GDisc	Gnd Disc 12	Mode 6 Low Volume Discrete (Ground)
Lower	J1A-02	GDisc	Gnd Disc 29	Steep Approach Discrete #1 (Ground)
Lower	J1A-03	GDisc	Gnd Disc 28	ILS Tuned Discrete #1 (Ground)
Lower	J1A-04	28vDisc	28v Disc 13	Radio Altitude Validity Discrete #2 (+28VDC)
Lower	J1A-05	GDisc	Gnd Disc 27	Glideslope Inhibit Discrete (Gnd)
Lower	J1A-06	PLI 1	PLI_1	Pitch Limit Indicator 1
Lower	J1A-07	PLI 2	PLI_2	Pitch Limit Indicator 2
Lower	J1A-08	Analog3W1	PAN X23A	Uncorrected Baro Alt Fine Synchro: ARINC 545A/565 (X)
Lower	J1A-09	Analog3W2	PAN Y23A	Uncorrected Baro Alt Fine Synchro: ARINC 545A/565 (Y)
Lower	J1A-10	Analog3W3	PAN X23B	Uncorrected Baro Alt Fine Synchro: ARINC 545A/565 (Z)
Lower	J1A-11	429inH	429 In 04 HI	429 input 4(A) [3],Data Concentrator
Lower	J1A-12	429inL	429 In 04 LO	429 input 4(B) 3, Data Concentrator
Lower	J1A-13	Lampout	Dout 05	Wx/EGPWC Display Select Discrete #1 (DO #5)
Lower	J1A-14	Progpin	PP10	Program Pin, PP10
Lower	J1A-15	453outH	453 Out HI	453 output 1(A)
Lower	J1A-16	453outL	453 Out LO	453 output 1(B)
Lower	J1A-17	429inH	429 In 05 HI	429 Input 5(A)[3] , INS/FMS 1
Lower	J1A-18	429inL	429 In 05 LO	429 Input 5(B)[3], INS/FMS 1
Lower	J1A-19	AnalogH	PAN X08A	Glideslope 1 Validity - Low Level (+) (X2)
Lower	J1A-20	AnalogL	PAN X08B	Glideslope 1 Validity - Low Level (-) (X2)
Lower	J1A-21	Lampout	Dout 06	Glideslope Manually Canceled Discrete (DO #6)
Lower	J1A-22	429inH 429outH	429 in 06 HI ARINC Out 1A	429 input 6(A)[3], GPS 1 GPS out 1A internally tied to 429 in 06 HI for -06x only.
Lower	J1A-23	429inL 429outL	429 in 06 LO ARINC Out 1B	429 input 6(B)[3], GPS 1 GPS out 1B internally tied to 429 in 06 LO for -06x only.
Lower	J1A-24	28vdisc	28v Disc 14	Landing Flaps Discrete (+28VDC)
Lower	J1A-25	Gdisc	Gnd Disc 13	DH Discrete (Ground)
Lower	J1A-26	GND__PP	PPGND	Program Pin Common
Lower	J1A-27	Progpin	PP11	Program Pin PP11
Lower	J1A-28	Progpin	PP12	Program Pin PP12
Lower	J1A-29	Progpin	PP13	Program Pin PP13
Lower	J1A-30	PWROUTH	+24 V Out	Warning Computer Power Output (+)
Lower	J1A-31	PWROUTL	-24 V Out	Warning Computer Power Output (-)
Lower	J1A-32	Progpin	PP 14	Program Pin PP14
Lower	J1A-33	HL Audio Output	HL Audio Output	High Level Direct Speaker Drive - 8Ω
Lower	J1A-34	Progpin	PP15	Program Pin PP15
Lower	J1A-35	Progpin	PP16	Program Pin PP16
Lower	J1A-36	Analog3W1	PAN X24A	CAS Synchro: ARINC 545A/565 (X)
Lower	J1A-37	Analog3W2	PAN Y24A	CAS Synchro: ARINC 545A/565 (Y)
Lower	J1A-38	Analog3W3	PAN X24B	CAS Synchro: ARINC 545A/565 (Z)
Lower	J1A-39	AnalogH	PAN X09A	DC Airspeed: ARINC 575 (+)
Lower	J1A-40	AnalogL	PAN X09B	DC Airspeed: ARINC 575 (-)

[1] Channel Designation References provide the internal mapping of software functions to the external interface. For example PAN X08A represents a Programmable Analog on the X Analog to Digital Converter Bank, multiplexed channel 08, leg A. A "(ref)" identifies channels that may also be used as an input for a signal reference .

[2] All synchro inputs on J2 are internally wired with X-Y-Z legs from top to bottom. Some synchro inputs are shown with the X and Y legs swapped to reflect how the interface may be wired in the typical application.

[3] 429 Bus numbers 7 through 15, and 18 are not used.

[4] Added in P/N 965-1076-XXX-210-210.

[5] Added in P/N 965-1076-XXX-218-218.

Connector	Pin	Signal Type	Channel Designation Reference[1]	Typical Signal Usage Summary[2]
Lower	J1B-01	28vdisc	28v Disc 22	ILS 1 Tuned (+28VDC)
Lower	J1B-02	28vdisc	28v Disc 21	Glideslope Inhibit Discrete (+28VDC)
Lower	J1B-03	PWRH	PWR HI	Power Input: 115 VAC 400 Hz (H) or 28 VDC (+)
Lower	J1B-04	PWRL	PWR LO	Power Input: 115 VAC 400 Hz (C) or 28 VDC (ground)
Lower	J1B-05	GND__C	Ch GND	Chassis Ground
Lower	J1B-06	GND__S	Sig GND	Signal Ground
Lower	J1B-07	28vdisc	28v Disc 20	Landing Gear Discrete (+28VDC)
Lower	J1B-08	28vdisc	28v Disc 19	Audio Inhibit Discrete (+28V)
Lower	J1B-09	Lampout	Dout 07	Terrain Displayable #1 (DO #7)
Lower	J1B-10	Lampout	Dout 08	Terrain Displayable #2 (DO #8)
Lower	J1B-11	Lampout	Dout 09	GPWS Warning Discrete (DO #9)
Lower	J1B-12	Monout	Mon 3	GPWS INOP discrete (monitor)
Lower	J1B-13	LLAudio OutputH	LL Audio 1 HI	Low Level Inter phone Audio No. 1 (H)
Lower	J1B-14	LLAudio OutputL	LL Audio 1 LO	Low Level Inter phone Audio No. 1 (C)
Lower	J1B-15	GDisc	Gnd Disc 15	Flap Position Discrete #3 (Gnd)
Lower	J1B-16	GDisc	Gnd Disc 32	Audio Inhibit Discrete/Momentary Audio Suppress Discrete (Gnd)
Lower	J1B-17	LLAudio OutputH	LL Audio 2 HI	Low Level Inter phone Audio No. 2 (H)
Lower	J1B-18	LLAudio OutputL	LL Audio 2 LO	Low Level Inter phone Audio No. 2 (C)
Lower	J1B-19	28vDisc	28v Disc 18	Radio Altitude Validity Discrete #1 (+28VDC)
Lower	J1B-20	S_RadioH	RALT 1 HI	Radio Altitude 1: ARINC 552 (+)
Lower	J1B-21	S_RadioL	RALT 1 LO	Radio Altitude 1: ARINC 552 (-)
Lower	J1B-22	GDisc	Self Test (gd8)	Self Test Discrete (Ground)
Lower	J1B-23	GDisc	Gnd Disc 16	Landing Gear Discrete (Ground)
Lower	J1B-24	GDisc	Gnd Disc 14	Landing Flaps Discrete (Ground)
Lower	J1B-25	GDisc	Gnd Disc 31	Flap Position Discrete #1 (Gnd) RAAS Enable or Inhibit Discrete[5]
Lower	J1B-26	28vDisc	28v Disc 15	Glideslope Validity Discrete #1 (+28VDC)
Lower	J1B-27	28vDisc	28v Disc 16	Barorate/Barometric Alt 1 Validity (+28V)
Lower	J1B-28	S_DCBaro1	BAR Sig	DC Barorate #1: ARINC 575/595 (Sig)
Lower	J1B-29	S_DCBaro2	BAR Ref HI	DC Barorate #1: ARINC 575/595 (+Ref)
Lower	J1B-30	S_DCBaro3	BAR Ref LO	DC Barorate #1: ARINC 575/595 (-Ref)
Lower	J1B-31	S_GlideH	GS 1 HI	Glideslope 1 Deviation - Low Level (+ up)
Lower	J1B-32	S_GlideL	GS 1 LO	Glideslope 1 Deviation - Low Level (+ down)
Lower	J1B-33	Lampout	Dout 10	Glideslope Alert Discrete (DO #10)
Lower	J1B-34	GDisc	Gnd Disc 30	Glideslope Cancel Discrete (Gnd)
Lower	J1B-35	453outH	453 out 2 HI	453 output 2(A)
Lower	J1B-36	453outL	453 out 2 LO	453 output 2(B)
Lower	J1B-37	AnalogH	PAN X04A	AC Barorate #1: ARINC 545A/565 (H)
Lower	J1B-38	AnalogL	PAN X04B	AC Barorate #1: ARINC 545A/565 (L)
Lower	J1B-39	AnalogH	PAN Y10A (ref)	AC Barorate #1 Reference (H)
Lower	J1B-40	AnalogL	PAN Y10B (ref)	AC Barorate #1 Reference (L)
Middle	1	COAX	COAX	GPS COAX connection
Upper	J2-A01	Lampout	Dout 1	Windshear Caution Discrete (DO #1)
Upper	J2-A02	Lampout	Dout 2	Windshear Warning Discrete (DO #2)
Upper	J2-A03	Monout	Mon 2	Windshear INOP Discrete (Monitor)
Upper	J2-A04	RS232-1	RS232 COM	Digital RS232 Port (Common)
Upper	J2-A05	RS232-2 429outH	RS232 TxD ARINC Out 3A	Digital RS232 Port (Transmit) GPS ARINC 429 Output HI for -06x only.
Upper	J2-A06	RS232-3 429outL	RS232 RxD ARINC Out 3B	Digital RS232 Port (Receive) GPS ARINC 429 Output LO for -06x only.
Upper	J2-A07	Progpin	PP20	Program Pin PP20
Upper	J2-A08	Progpin	PP21	Program Pin PP21

Connector	Pin	Signal Type	Channel Designation Reference[1]	Typical Signal Usage Summary[2]
Upper	J2-A09	Progpin	PP22	Program Pin PP22
Upper	J2-A10	Progpin	PP06	Program Pin PP06
Upper	J2-A11	Progpin	PP23	Program Pin PP23
Upper	J2-A12	Progpin	PP07	Program Pin PP07
Upper	J2-A13	Progpin	PP24	Program Pin PP24
Upper	J2-A14	Progpin	PP08	Program Pin PP08
Upper	J2-A15	Progpin	PP09	Program Pin PP09
Upper	J2-B01	Progpin	PP17	Program Pin PP17
Upper	J2-B02	Progpin	PP01	Program Pin PP01
Upper	J2-B03	Progpin	PP18	Program Pin PP18
Upper	J2-B04	Progpin	PP02	Program Pin PP02
Upper	J2-B05	Progpin	PP19	Program Pin PP19
Upper	J2-B06	Progpin	PP03	Program Pin PP03
Upper	J2-B07	Progpin	PP04	Program Pin PP04 (spare)
Upper	J2-B08	GND__S	+5 GND	+5 VDC Ground (Redundant to J1B-6)
Upper	J2-B09	Progpin	PP05	Program Pin PP05 (spare)
Upper	J2-B10	28vDisc	28v Disc 07	Radio Altitude Validity Discrete #3 (+28VDC)
Upper	J2-B11	S_RadioH	RALT 3 HI	Radio Altitude 3: ARINC 552 (+)
Upper	J2-B12	S_RadioL	RALT 3 LO	Radio Altitude 3: ARINC 552 (-)
Upper	J2-B13	Lampout	Dout 04	TCAS Inhibit (Audio Inhibit) discrete (DO #4)
Upper	J2-B14	429/422RxinH	429in 422Rx 17 HI	429 input 17(A)[3] RS-422 #1H Rx Display Control Bus 2
Upper	J2-B15	429/422RxinL	429in 422Rx 17 LO	429 in 17(B)[3] RS-422 #1L Rx Display Control Bus 2
Upper	J2-C01	Analog3W1	PAN X11A	DC Ratio Angle of Attack (+) DC Angle of Attack #2 (+) Synchro Angle of Attack #2 (Y)
Upper	J2-C02	Analog3W2	PAN Y11A	Synchro Angle of Attack #2 (X)
Upper	J2-C03	Analog3W3	PAN X11B	DC Ratio Angle of Attack (-) DC Angle of Attack #2 (-) Synchro Angle of Attack #2 (Z)
Upper	J2-C04	Gdisc	Gnd Disc 01	Simulator Reposition Discrete
Upper	J2-C05	28vdisc	28v Disc 05	Barometric Alt Rate #2 Validity (+28V)
Upper	J2-C06	429inH	429 In 01 HI	429 in 1(A)[3], Digital Air Data 2
Upper	J2-C07	429inL	429 In 01 LO	429 in 1(B)[3], Digital Air Data 2
Upper	J2-C08	429inH	429 In 02 HI	429 input 2(A)[3], INS/FMS 2
Upper	J2-C09	429inL	429 In 02 LO	429 in 2(L)[3], INS/FMS 2
Upper	J2-C10	429outH	429 Out 1 HI	429 output 1(A)
Upper	J2-C11	429outL	429 Out 1 LO	429 output 1(B)
Upper	J2-C12	S_TATRET	Curr Y25A	DC Ratio Total Air Temp. (TAT): Excitation Return
Upper	J2-C13	429/422TxinH	429in 422Tx 16 HI	429 in 16(A)[3] RS-422 #1H Tx Display Control Bus 1
Upper	J2-C14	429/422TxinL	429in 422Tx 16 LO	429 in 16(B)[3] RS-422 #1L Tx Display Control Bus 1
Upper	J2-C15	Gdisc	Gnd Disc 11	Flap Position Discrete #2 (Gnd) GPWS Inhibit Discrete [4] RAAS Enable or Inhibit Discrete[5]
Upper	J2-D01	Analog3W1	PAN X12A	Synchro Flap Position #2 (Y) DC Selsyn Flap Position #2 (Y)
Upper	J2-D02	Analog3W2	PAN Y12A	Synchro Flap Position #2 (X) DC Selsyn Flap Position #2 (X)
Upper	J2-D03	Analog3W3	PAN X12B	Synchro Flap Position #2 (Z) DC Selsyn Flap Position #2 (Z)

Connector	Pin	Signal Type	Channel Designation Reference[1]	Typical Signal Usage Summary[2]
Upper	J2-D04	28vdisc	28v Disc 04	Attitude #2 Validity (+28V)
Upper	J2-D05	Gdisc	Gnd Disc 04	WXR On Discrete #2 (Gnd)
Upper	J2-D06	AnalogH	PAN Y08A (ref)	Calibrated IAS DC (Simulator) (+) DC Flap Angle (+) (Y6) (TR3)
Upper	J2-D07	AnalogL	PAN Y08B (ref)	Calibrated IAS DC (Simulator) (-) DC Flap Angle (-) (Y6) (TR3)
Upper	J2-D08	Analog3W1	PAN X17A	Corrected Fine Barometric Altitude (X)
Upper	J2-D09	Analog3W2	PAN Y17A	Corrected Fine Barometric Altitude (Y)
Upper	J2-D10	Analog3W3	PAN X17B	Corrected Fine Barometric Altitude (Z)
Upper	J2-D11	28vdisc	28v Disc 08	Accel Valid Long (28V)
Upper	J2-D12	28vdisc	28v Disc 10	Accel Self Test in Progress (28v)
Upper	J2-D13	Analog3W1	PAN X20A	Pitch Attitude #2 (Y)
Upper	J2-D14	Analog3W2	PAN Y20A	Pitch Attitude #2 (X)
Upper	J2-D15	Analog3W3	PAN X20B	Pitch Attitude #2 (Z)
Upper	J2-E01	Analog3W1	PAN X13A	Roll Attitude #2 (Y)
Upper	J2-E02	Analog3W2	PAN Y13A	Roll Attitude #2 (X)
Upper	J2-E03	Analog3W3	PAN X13B	Roll Attitude #2 (Z)
Upper	J2-E04	AnalogH	PAN X05A	Normal Acceleration #2 (+) ± 9 vdc AOA for HS 125-800 ac config 114 (+)
Upper	J2-E05	AnalogL	PAN X05B	Normal Acceleration #2 (-) ± 9 vdc AOA for HS 125-800 ac config 114 (-)
Upper	J2-E06	AnalogH	PAN Y05A (ref)	Longitudinal Acceleration #2 (+) (Y4) (TR5) SAT (absolute DC) (+) Coarse Altitude DC (Simulator, AZ-241) (+)
Upper	J2-E07	AnalogL	PAN Y05B (ref)	Longitudinal Acceleration #2 (-) (Y4) (TR5) SAT (Absolute DC) (-) Coarse Altitude DC (Simulator, AZ-241) (-)
Upper	J2-E08	AnalogH	PAN Y09A (ref)	AC Flap Position Excitation #2 (H)
Upper	J2-E09	AnalogL	PAN Y09B (ref)	AC Flap Position Excitation #2 (C)
Upper	J2-E10	GND__PP	PP RTN	Program Pin Common (Redundant to J1A-26)
Upper	J2-E11	Gdisc	Gnd Disc 07	Flap Position Discrete #4 (Gnd)
Upper	J2-E12	28vdisc	28v Disc 23	AOA Validity Discrete #2 (+28V)
Upper	J2-E13	Gdisc	Gnd Disc 09	Steep Approach Discrete #2 (Ground)
Upper	J2-E14	Gdisc	Gnd Disc 10	WXR On Discrete #1 (Ground)
Upper	J2-E15	28vdisc	28v Disc 17	Localizer Validity Discrete #1 (+28VDC)
Upper	J2-F01	Monout	Mon 1	Terrain Display INOP Discrete (Monitor)
Upper	J2-F02	Lampout	Dout 03	Wx/EGPWC Display Select Discrete #2 (DO #3)
Upper	J2-F03	GPS Fault	Spare	Spare
Upper	J2-F04	Gdisc	Gnd Disc 02	Altitude Calllouts Enable Discrete
Upper	J2-F05	S_DCAOAH	AOA HI	Special DC AOA #2 Input (+)
Upper	J2-F06	S_DCAOAL	AOA LO	Special DC AOA #2 Input (-)
Upper	J2-F07	Gdisc	Gnd Disc 05	Display Select Discrete #1
Upper	J2-F08	S_RadioH	RALT 2 HI	Radio Altitude 2: ARINC 552 (+)
Upper	J2-F09	S_RadioL	RALT 2 LO	Radio Altitude 2: ARINC 552 (-)
Upper	J2-F10	S_GlideL	GS 2 HI	Glideslope 2 Deviation - Low Level (+ up)
Upper	J2-F11	S_GlideH	GS 2 LO	Glideslope 2 Deviation - Low Level (+ down)
Upper	J2-F12	28vdisc	28v Disc 11	ILS 2 Tuned(+28VDC)
Upper	J2-F13	Gdisc	Gnd Disc 26	ILS Tuned Discrete #2 (Ground)
Upper	J2-F14	AnalogH	PAN Y04A	Glideslope 2 Validity - Low Level (+)
Upper	J2-F15	AnalogL	PAN Y04B	Glideslope 2 Validity - Low Level (-)
Upper	J2-G01	28vdisc	28v Disc 01	AOA Validity Discrete #1 (+28V)
Upper	J2-G02	28vDisc	28v Disc 02	Glideslope Validity Discrete #2 (+28VDC)
Upper	J2-G03	28vdisc	28v Disc 03	Accel Valid Norm (+28V)
Upper	J2-G04	Gdisc	Gnd Disc 03	Terrain Awareness & TCF Inhibit (Ground)
Upper	J2-G05	28vdisc	28v Disc 06	Airspeed Validity (+28V)

Connector	Pin	Signal Type	Channel Designation Reference[1]	Typical Signal Usage Summary[2]
Upper	J2-G06	5Vref+	+5V Out HI	A/D Converter Reference Voltage (+) Alpha Vane Excitation DC Ratio Total Air Temp. (TAT) Excitation
Upper	J2-G07	5Vref-	+5V Out LO	Analog to Digital Converter Reference Voltage (-)
Upper	J2-G08	T_refH	Ref 1 HI	AC zero cross timing reference 1H
Upper	J2-G09	T_refL	Ref 1 LO	AC zero cross timing reference 1L
Upper	J2-G10	T_refH	Ref 2 HI	AC zero cross timing reference 2H
Upper	J2-G11	T_refL	Ref 2 LO	AC zero cross timing reference 2L
Upper	J2-G12	AnalogH	PAN X07A	Engine Power #1 (+)
Upper	J2-G13	AnalogL	PAN X07B	Engine Power #1 (-)
Upper	J2-G14	AnalogH	PAN Y07A (ref)	AC Flap Position Excitation #1 (H)
Upper	J2-G15	AnalogL	PAN Y07B (ref)	AC Flap Position Excitation #1 (C)
Upper	J2-H01	Analog3W1	PAN X14A	DC Angle of Attack #1 (+) Synchro Angle of Attack #1 (X)
Upper	J2-H02	Analog3W2	PAN Y14A	Synchro Angle of Attack #1 (Y)
Upper	J2-H03	Analog3W3	PAN X14B	DC Angle of Attack #1 (-) Synchro Angle of Attack #1 (Z)
Upper	J2-H04	S_LocalizerH	LOC 1 HI	Localizer #1 Deviation - Low Level (+)
Upper	J2-H05	S_LocalizerL	LOC 1 LO	Localizer #1 Deviation - Low Level (-)
Upper	J2-H06	Analog3W1	PAN X18A	Uncorrected AC Barometric Altitude - Coarse Synchro (X) DC Barometric Altitude (+)
Upper	J2-H07	Analog3W2	PAN Y18A	Uncorrected AC Barometric Altitude - Coarse Synchro (Y)
Upper	J2-H08	Analog3W3	PAN X18B	DC Barometric Altitude (-) Uncorrected AC Barometric Altitude - Coarse Synchro (Z)
Upper	J2-H09	Gdisc	Gnd Disc 06	Display Select Discrete #2
Upper	J2-H10	AnalogH	PAN X03A	Engine Power #2 (+)
Upper	J2-H11	AnalogL	PAN X03B	Engine Power #2 (-)
Upper	J2-H12	AnalogH	PAN X02A	Normal Acceleration #1: Bi-Axial Accelerometer (+)
Upper	J2-H13	AnalogL	PAN X02B	Normal Acceleration #1: Bi-Axial Accelerometer (-)
Upper	J2-H14	AnalogH	PAN Y02A	Longitudinal Acceleration #1: Bi-Axial Accelerometer (+)
Upper	J2-H15	AnalogL	PAN Y02B	Longitudinal Acceleration #1: Bi-Axial Accelerometer (-)
Upper	J2-J01	Analog3W1	PAN X15A	Corrected AC Barometric Altitude - Coarse Synchro (X)
Upper	J2-J02	Analog3W2	PAN Y15A	Corrected AC Barometric Altitude - Coarse Synchro (Y)
Upper	J2-J03	Analog3W3	PAN X15B	Corrected AC Barometric Altitude - Coarse Synchro (Z)
Upper	J2-J04	AnalogH	PAN X01A	DC Ratio Static Air Temperature (SAT) (+) DC Static Air Temperature (SAT) (+) DC Ratio Total Air Temperature (TAT) (Rtat+)
Upper	J2-J05	AnalogL	PAN X01B	DC Ratio Static Air Temperature (SAT) (-) DC Static Air Temperature (SAT) (-) DC Ratio Total Air Temperature (TAT) (Rtat-)
Upper	J2-J06	AnalogH	PAN Y01A	DC Ratio Static Air Temperature (SAT) (REF-) DC Ratio Total Air Temperature (TAT) (Rref+)
Upper	J2-J07	AnalogL	PAN Y01B	DC Ratio Static Air Temperature (SAT) (REF+) DC Ratio Total Air Temperature (TAT) (Rref-)
Upper	J2-J08	Analog3W1	PAN X19A	Spare Synchro #1 (X) (magnetic Track?)
Upper	J2-J09	Analog3W2	PAN Y19A	Spare Synchro #1 (Y)
Upper	J2-J10	Analog3W3	PAN X19B	Spare Synchro #1 (Z)
Upper	J2-J11	S_LocalizerH	LOC 2 HI	Localizer #2 Deviation - Low Level (+)
Upper	J2-J12	S_LocalizerL	LOC 2 LO	Localizer #2 Deviation - Low Level (-)
Upper	J2-J13	Analog3W1	PAN X21A	Synchro Flap Position #1 (X) DC Selsyn Flap Position #1 (X) DC Flap Angle (+)
Upper	J2-J14	Analog3W2	PAN Y21A	Synchro Flap Position #1 (Y) DC Selsyn Flap Position #1 (Y)
Upper	J2-J15	Analog3W3	PAN X21B	Synchro Flap Position #1 (Z) DC Selsyn Flap Position #1 (Z) DC Flap Angle (-)

Connector	Pin	Signal Type	Channel Designation Reference[1]	Typical Signal Usage Summary[2]
Upper	J2-K01	Analog3W1	PAN X16A	Synchro Pitch Attitude #1 (X)
Upper	J2-K02	Analog3W2	PAN Y16A	Synchro Pitch Attitude #1 (Y)
Upper	J2-K03	Analog3W3	PAN X16B	Synchro Pitch Attitude #1 (Z)
Upper	J2-K04	AnalogH	PAN X06A	AC Ratio Barometric Altitude Rate #2 (Signal+)
Upper	J2-K05	AnalogL	PAN X06B	AC Ratio Barometric Altitude Rate #2 (Signal-)
Upper	J2-K06	AnalogH	PAN Y06A (ref)	AC Ratio Barometric Altitude Rate #2 (REF+)
Upper	J2-K07	AnalogL	PAN Y06B (ref)	AC Ratio Barometric Altitude Rate #2 (REF-)
Upper	J2-K08	429inH	429 In 03 HI	429 input 3(A)[3] Digital Air Data 1
Upper	J2-K09	429inL	429 In 03 LO	429 in 3(B)[3] Digital Air Data 1
Upper	J2-K10	Accel_out	Accel Test Out	Accelerometer Self Test initlation Output
Upper	J2-K11	28vdisc	28v Disc 09	Attitude #1 Validity (+28V)
Upper	J2-K12	28vdisc	28v Disc 12	Localizer Validity Discrete #2 (+28VDC)
Upper	J2-K13	Analog3W1	PAN X22A	Roll Attitude #1 (X)
Upper	J2-K14	Analog3W2	PAN Y22A	Roll Attitude #1 (Y)
Upper	J2-K15	Analog3W3	PAN X22B	Roll Attitude #1 (Z)

8.2 Front Test Plug Pinout

TABLE 8-2: FRONT TEST PLUG PIN ASSIGNMENT

Pin Number	Function
1	GROUND
2	RESERVED
3	RS232RX
4	RS232TX
5	SPARE
6	PCMCIA BOOT ENABLE
7	AAC RS232RX
8	RX422A
9	TX/422A
10	SPARE
11	SPARE
12	AAC RS232TX
13	RX422B
14	TX422B
15	SPARE

Lower Connector - J1

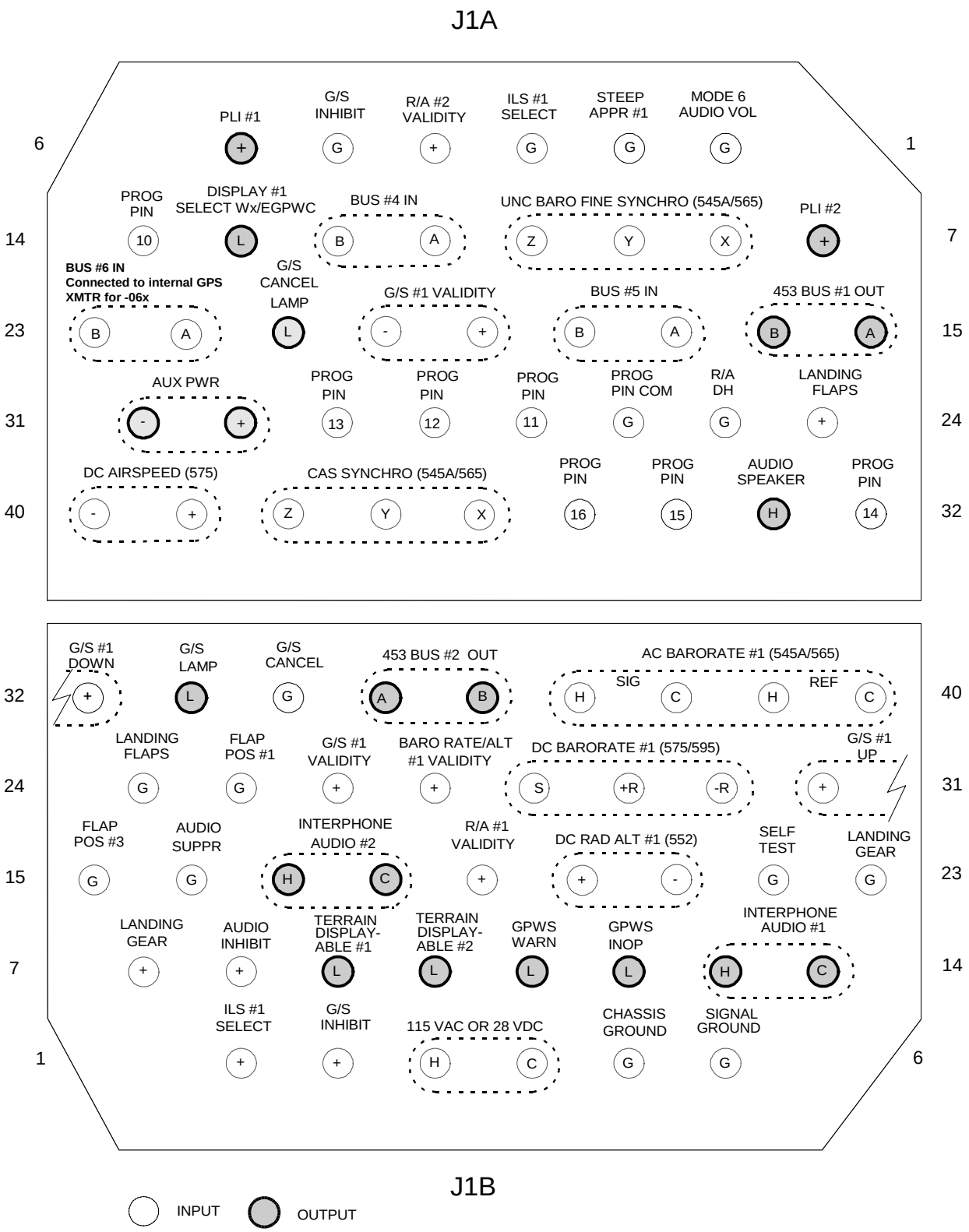

Figure 8-1, Lower –Connector (Typical Use) - J1

Upper Connector - J2

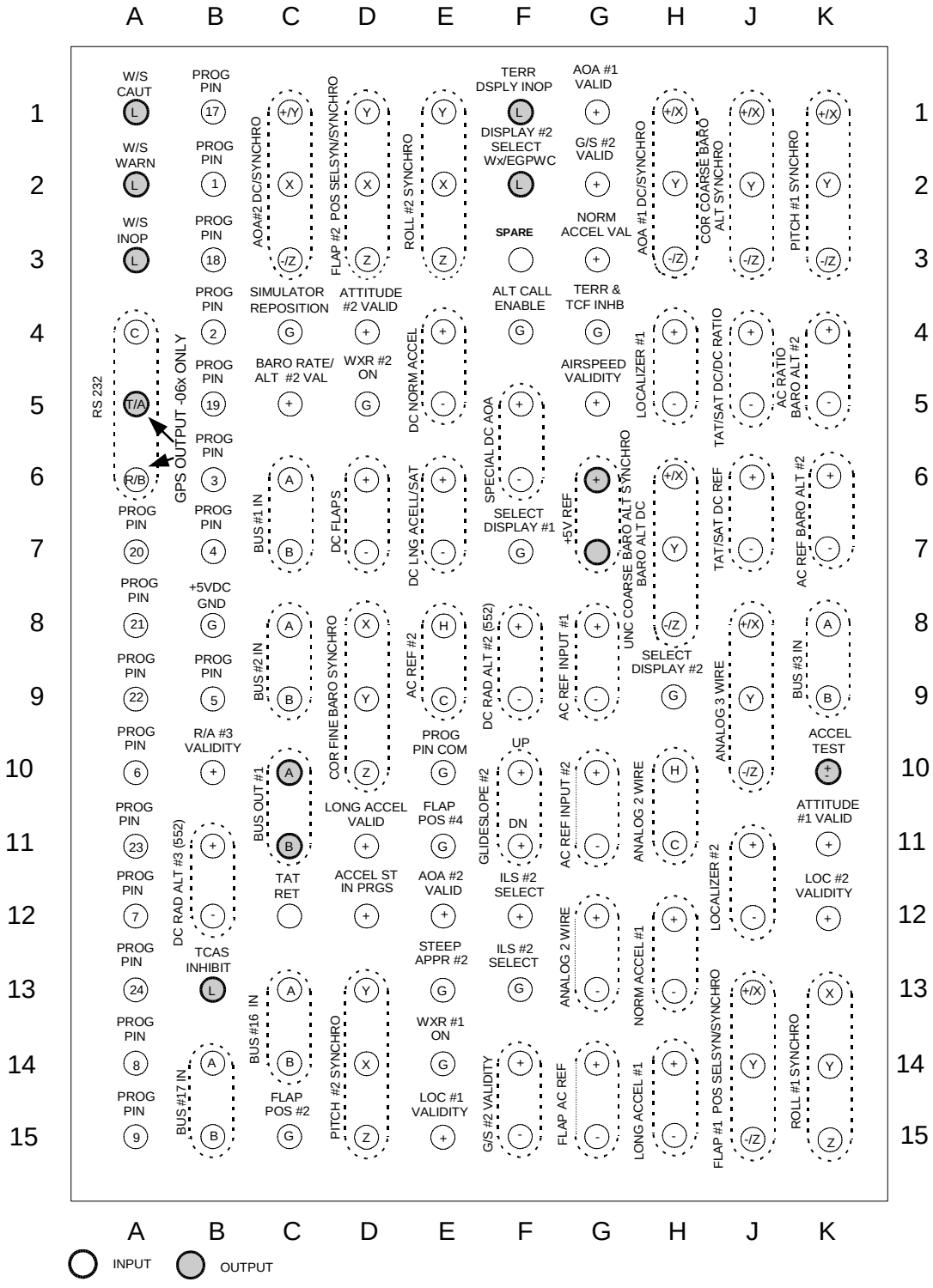

Figure 8-2, Upper Connector (Typical Use) - J2[2]

9. Appendix D: Definitions

Document Revision History, Section 9

Date - Modified By	Affected Sections	Description of the Updates	Effectivity App.	Effectivity Cfg.
11/06/97 - A Loos	All	Initial Release and entry into SDS	202	202
17-MAR-99	-	Removed duplicaes and added missing PLI definition	-	-
06-JUN-00 – M. Henderson	All	Removed proprietary statement.	-	-

The following acronyms are provided for use with this document:

Acronym	Interpretation
AAAS	Alternate Audio Alert Select
ADC	Air Data Computer
ADS	Air Data System
AGL	Above Ground Level
AHRS	Attitude Heading Reference System
AIMS	Airplane Information Management System
AOA	Angle of Attack
ASA	AlliedSignal Aerospace
ASL	Above Sea Level
ATP	Acceptance Test Procedure
BCD	Binary Coded Decimal
BIST	Built in Self Test
BIT	Built In Test
BITE	Built In Test Equipment
BNR	Binary
BOSS	Batch Oriented Simulation System
C/O	Callouts
CAA	Civil Aviation Authority
CAIMS	Central Aircraft Information/Maintenance System
CFDS	Centralized Fault Display System
CFIT	Controlled Flight Into Terrain
CFM	Cubic Feet per Minute
CISRD	CFDS Interface System Requirements Document
CMC	Central Maintenance Computer
COTS	Commercial Off the Shelf
CP	Control Panel
CRS	Course
CW	Clockwise
DAA	Digital/Analog Adapter
DADC	Digital Air Data Computer
DAU	Data Acquisition Unit
DC	Digital Command
DDM	Difference in Depth of Modulation
DEVN	Deviation
DH	Decision Height
DITS	Digital Information Transfer System
DME	Distance Measuring Equipment
DO	Discrete Output
DSP	Digital Signal Processor
DSU	Display Switching Unit
DSWC	Digital Stall Warning Computer
EEPROM	Electrically Erasable Programmable Read Only Memory
EFCP	EFIS Control Panel

Acronym	Interpretation
EFIS	Electronic Flight Instrument System
EGPWC	Enhanced Ground Proximity Warning Computer
EGPWD	Enhanced Ground Proximity Warning Display
EGPWS	Enhanced Ground Proximity Warning System
EICAS	Engine Indication and Crew Alert System
EMI	Electromagnetic Interference
ENB	Enabled
EPROM	Erasable Programmable Read Only Memory
F/T	Functional Test
F/W	Fail/Warning
FAA	Federal Aviation Administration
FCC	Flight Control Computer
FDR	Flight Data Recorder
FIAS	Flight Inspection Aircraft System
FMC	Flight Management Computer
FMS	Flight Management System
FPM	Feet per Minute
FSEU	Flaps/Slats Electronic Unit
FWC	Fault Warning Computer
G/S	Glideslope
GMT	Greenwich Mean Time
GPS	Global Position System
GPW	Ground Proximity Warning
GPWS	Ground Proximity Warning System
GT	Greater Than
H/W	Hardware
HDG	Heading
HDOP	Horizontal Dilution of Position
HSID	Hardware/Software Interface Document
I/O	Input/Output
IAC	Integrated Avionics Computer
ICD	Interface Control Document
ILS	Instrument Landing System
INOP	Inoperative
IOC	Input/Output Concentrator
IRS	Inertial Reference System
ISO	International Standards Organization
IVS	Inertial Vertical Speed
KT	Knots
KTS	Knots
LED	Light Emitting Diode
LRRA	Low Range Radio Altimeter
LRU	Line Replaceable Unit
LSB	Least Significant Bit
LT	Less Than
MCP	Mode Control Panel
MDA	Minimum Barometric Altitude
MFD	Multi-Functional Display
MKII	Mark Two GPWS Warning Computer
MKV	Mark Five GPWS Warning Computer
MKVII	Mark Seven GPWS Warning Computer
MLS	Microwave Landing System
MSB	Most Significant Bit
N/A	Not Applicable
NCD	No Computed Data
ND	Navigation Display
NVM	Non Volatile Memory

Acronym	Interpretation
OMS	Onboard Maintenance System
P/N	Part Number
PAR	Parity
PC	Personal Computer
PCMCIA	Personal Computer Memory Card Industry Association
PFD	Primary Flight Display
PLI	Pitch Limit Indicator
PMAT	Portable Maintanence Access Terminal
PP	Program Pin
PVM	Processor/Voice/Memory
PWS	Predictive Windshear System
QFE	Corrected Baro Alt relative to field elevation
QNH	Corrected Baro Alt relative to sea level
RA	Radio Altitude
RAM	Random Access Memory
RDOP	Radar Display Output Processing
ROM	Read Only Memory
RTCA	Requirements and Technical Concepts for Aviation
RTS	Ready to Transmit Signal
RWY	Runway
S/T	Self Test
S/W	Software
SDI	Source/Destination Identifier
SDRD	Software Design Requirements Document
SIG	Significant
SPC	Stall Protection Computer
SRD	System Requirements Document
SSM	Sign Status Matrix
ST	Self Test
SWC	Stall Warning Computer
TA&D	Terrain Awareness & Display
TACAN	Tactical Air Navigation
TAD	Terrain Awareness Display
TBD	To Be Determined
TCAS	Traffic Collision Avoidance System
TCF	Terrain Clearance Floor
TERPS	United States' Standards for Terminal Instrument Procedures
TK	Track
TLB	Translation Lookaside Buffer
TSO	Technical Standing Order
TTL	Tuned To Localizer
UART	Universal Asynchronous Receiver Transmitter
USM	Unsigned Magnitude
UTC	Universal Time Correlation
UUT	Unit Under Test
VDC	Volts, DC
VDOP	Vertical Dilution of Precision
VHF	Very High Frequency
VLSI	Very Large Scale Integrated Circuit
VOR	VHF Omni-directional Range
W/S	Windshear
WC	Warning Computer